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ABSTRACT

The purpose of this manual is to link classroom food experiences for elementary school students to academic objectives in health, reading and language arts, mathematics, science, and social studies. Objectives, grade level, and food experience activities are listed for each lesson, which reinforce academic objectives and teach principles of good nutrition in an activity context that children enjoy. Although the majority of recipes used for activities are in "Cook and Learn" (1980, B. Veitch and T. Harms, Addison-Wesley Publishing Company, Inc., Reading, Massachusetts 01867), other recipes can be substituted. Ways to involve parents and to use the recipes, suggestions for health and safety, and a bibliography are included. (CJ)

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USING FOOD EXPERIENCES TO REINFORCE ACADEMIC OBJECTIVES

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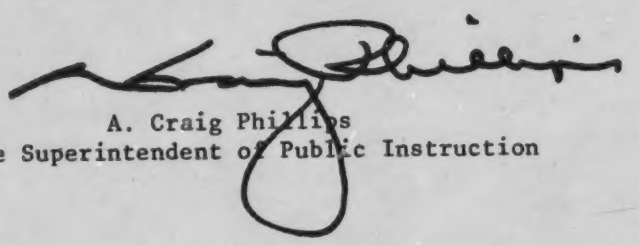
Foreword

Innovative ideas are developed periodically to assist elementary teachers in providing opportunities to help children learn the basic academic skills. The activities in this manual are designed to enhance the teaching of basic skills through classroom food experiences.

This manual was developed by the staff of the Frank Porter Graham Child Development Center and was funded by the Nutrition Education and Training (NET) Program. The NET Program is one of seven programs administered through the Division of Child Nutrition, Department of Public Instruction. The overall goals of the Division of Child Nutrition are to promote nutrition education and to safeguard the health and well being of children in North Carolina.

This manual suggests food experiences which are integrated into the existing curriculum. Food experiences are already widely practiced in many of our schools, however, it is the intent of this manual to incorporate these experiences into the ongoing curriculum. It is well documented that children learn best by being involved and the experiences outlined in this manual can increase this involvement.



A. Craig Phillips
State Superintendent of Public Instruction

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Acknowledgement

This manual was written by
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Thelma Harms and Deborah Reid Cryer
Frank Porter Graham Child Development Center
University of North Carolina at Chapel Hill
Summer, 1980

HOW TO USE THIS MANUAL

The purpose of this manual is to link classroom food experiences for children, pre-kindergarten through 6th grade, to academic objectives in Healthful Living, Reading and Language Arts, Mathematics, Science, and Social Studies. Most of the objectives in this manual were taken from the *Competency Goals and Performance Indicators K-12*, prepared by the North Carolina Department of Public Instruction. Following each objective, the authors have described a number of learning experiences using single portion, picture-word recipes from the cookbook, *Cook and Learn**.

By using these food experiences, a teacher can simultaneously reinforce academic objectives and teach principles of good nutrition in an activity context that children enjoy. Cooking in the classroom is an important part of a nutrition education program for children. Since preschool-primary grade children learn best through direct experiences, actually preparing and eating foods is an excellent way to teach them about good nutrition.

Using The Manual With Other Recipes

This manual can be used with recipes from sources other than *Cook and Learn*. The activities are described in sufficient detail so that teachers can select their own recipes, should that prove to be easier. There are a number of children's cookbooks available, and teachers should feel free to include recipes from additional sources.

Involving Parents

Cooking in the classroom is a good way to involve parents. Every effort should be made to include parents in the nutrition education program. At the end of this manual there is a sample newsletter* that can be reproduced and sent home to parents, along with a recipe that the children have used in school. If the teacher continues to send home copies of recipes that the children have used, parents will become familiar with these recipes and might allow their children to cook these foods at home. By using the pictorial recipe to help them remember how they prepared the food at school, even very young children can learn to describe the process in great detail. It is a good language building experience for children to explain to their parents how they used a recipe at school. The parent newsletters will explain to parents that in school we do not "learn to cook," but rather "cook to learn."

The Cook and Learn Recipes

Since our goal is to have children become aware of principles of good nutrition from these classroom food experiences, the *Cook and Learn* recipes are being used to help children enjoy fruits and vegetables, whole grains, dairy products, meat and meat substitutes. The recipes are nutritionally sound and contain limited amounts of salt, sugar, and fats. They also include a great variety of foods representing different countries and cultures. This variety of recipes was helpful in the preparation of the teachers' manual, linking recipes to objectives in academic areas. There are recipes that introduce counting, others that link well with stories and holidays, still others that illustrate science concepts. In selecting alternative or additional recipes, the same criteria should be applied.

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*Veitch, B. and Harms, T. *Cook and Learn*, Addison-Wesley Publishing Co.: Menlo Park, CA, 1980.

*Additional newsletters are available in *The Step Book*, Veitch, B. and Harms, T. Addison-Wesley Publishing Co.: Menlo Park, CA, 1980.

Suggestions for Health and Safety

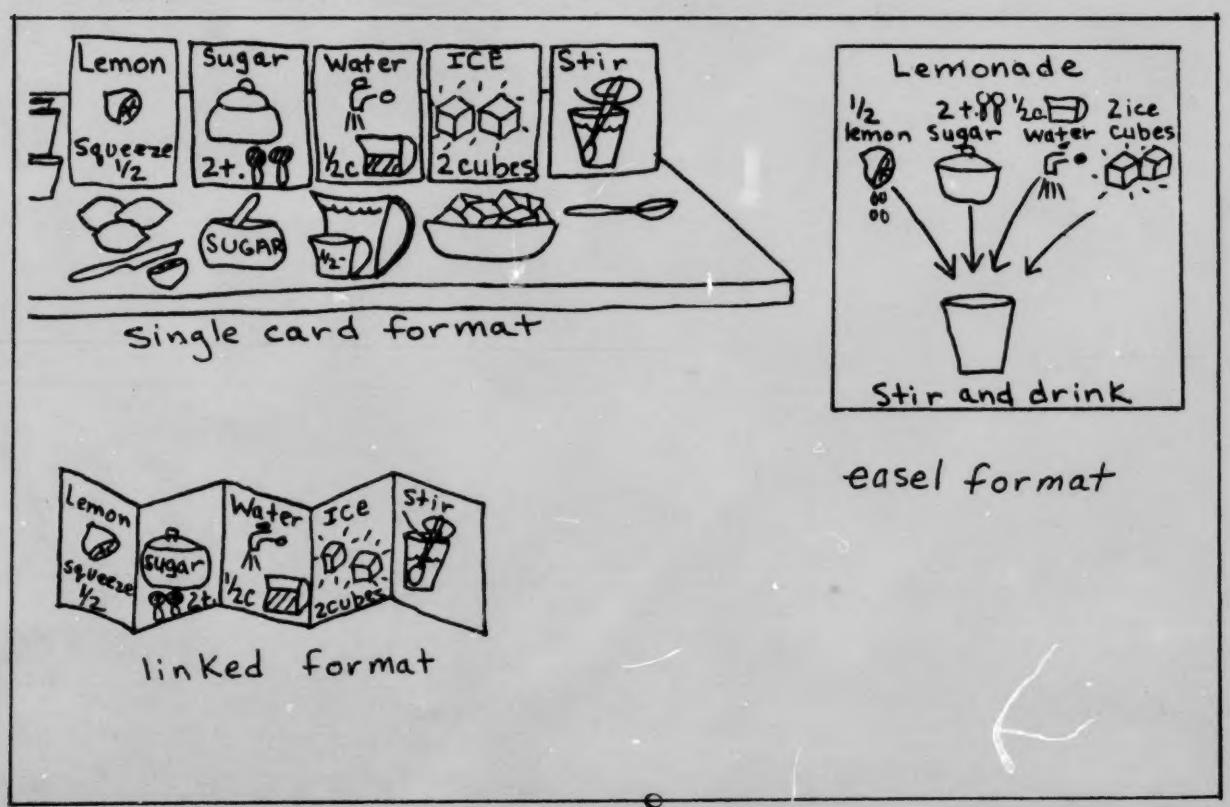
In order to conduct classroom cooking successfully, there are practical considerations of safety and health to consider. If it is organized properly, classroom cooking is not dangerous. The following safety and health rules should be observed.

- Limit the number of children participating at one time to the number that can be carefully supervised.
- Allow knives to be used only on small cutting boards.
- For younger children, put colored tape on the top of the knife handle. Instruct children that they can cut only when they can see the colored tape.
- Put a hand rest card near the hot appliance on the cooking table, so that the hand that is not busy at the applicance will be kept away from the hot surface. (The hand rest is a paper card saying "Put hand here").
- Have children wash their hands before cooking, and maintain reasonable sanitary procedures during the cooking experience.
- Use volunteers, such as parents and cross age tutors, as supervisors.

A more complete discussion of health and safety procedures is included later in this manual.

Alternative Formats for Single Portion Recipes

Cooking is fun for children, under most circumstances. With the help of this manual classroom cooking can take its place with other self motivating activities used to teach academic and social skills. Remember the sample recipes referred to in this manual are all in *Cook and Learn,* however other sources for recipes can be used. The best way to use pictorial recipes for pre-schoolers and kindergarteners is to enlarge each step of a recipe and put it on a single card. Place the ingredients and measuring utensils in front of each card, using left to right order, as in the drawing below. Thus, children practice left to right order as they follow the recipe cards. For older children, who do not need 1 to 1 action-guide card correspondence, the linked format and the easel format may be used.



It may be necessary for the teacher to obtain more background information for setting up and conducting food experiences in the classroom. One source of such information is *Maximizing Learning From Cooking Experiences**, the teachers' guide for *Cook and Learn.*

Organization of This Manual

The cooking activities in this manual are organized under objectives in five main headings: Healthful Living, Reading and Language, Mathematics, Science, and Social Studies. Under each heading there are sections for Preschool-K, Grades 1-3, and Grades 4-6. **The teacher should feel free to use activities from all grade levels in order to meet the needs of the group.**

The same activity can often be used to reach several objectives. It would be helpful for the teacher to first skim the manual to familiarize herself or himself with the contents. However, when working on a particular objective in a subject area, the appropriate activity can be found by consulting the index, which lists all activities under specific objectives.

Under some activities, a number of sample recipes appropriate for use with the activity are listed. The teacher is free to choose the particular recipe which best suits her/his class. The sample recipes are listed by name in the Table of Contents in *Cook and Learn* under types of dishes, for example, beverages, salads, cereals, eggs, dairy, breads, etc. In this manual, recipe names have been used, but page numbers have been omitted to avoid confusion, since teachers may be using various editions of *Cook and Learn.*

Resources Available for Implementing These Ideas

The local school systems participating in the Nutrition Education Training Program have a nutrition education resource team composed of the School Food Service Director and Curriculum Supervisor. This team can be contacted for help in obtaining food processing equipment, food serving equipment, food, and other nutrition education resources. Within each school, the Principal and Cafeteria Manager will be able to help coordinate classroom food experiences with foods served in the cafeteria.

Preparing to do cooking in your classroom will take effort and organization, but it is worth it. Children of widely differing abilities and backgrounds enjoy this activity and feel equally successful doing it. The ideas expressed in this manual have been used with preschool children, with K-6th graders, and in special education classes. They have been used in day care facilities, in homes, and in schools. Children do not seem to tire of cooking, and they do become very competent at it. By linking these pleasurable experiences to academic objectives, food experiences can contribute to the academic program as well as to children's knowledge of good nutrition.

*Harms, T. *Maximizing Learning From Cooking Experiences,* Addison-Wesley Publishing Co.: Menlo Park, CA, 1980.

HEALTHFUL LIVING

Healthful Living

Preschool - K

Nutrition

Objective **THE CHILD WILL BE FAMILIAR WITH A VARIETY OF FOODS**

Activity HL1 **Try New Foods**

Try to use a wide variety of recipes representing different ethnic and cultural groups. Use unusual as well as familiar recipes. When introducing a new recipe, go through the ingredients with the children. Choose some of the ingredients, e.g., zucchini, broccoli, dates, etc., and make a bar graph showing who is or is not familiar with those foods.

Who Has Eaten Zucchini Before?	
Yes	No
5.	5.
4.	4. Jimmy
3. Emma	3. Barbara
2. Thelma	2. Richard
1. Debby	1. Janice

Let the children taste the ingredients before they cook with them. Serve the ingredient raw, if possible, or in its simplest cooked form, if it should not be eaten raw. Discuss what the children thought of their food experiences. Write their ideas on an experience chart.

Today we tasted zucchini.
Emma says, "Zucchini is green."
Jimmy says, "Zucchini looks like a cucumber."
Liza says, "Zucchini looks like a squash."
Lottie says, "I ate three pieces of zucchini."

Activity HL2 **One Food Can be Used in Many Ways**

After introducing a new ingredient, try using it in several cooking experiences. Help the children compare how the same ingredient tastes in different recipes. Find out and graph who liked the ingredient best in each recipe.

Who Liked Zucchini Best in:		
Zucchini Fritters	Zucchini Bread	Zucchini Crepes
6.	6.	6.
5.	5.	5.
4.	4.	4. Sara
3. Liza	3. John	3. Martha
2. Lottie	2. Sandy	2. Andy
1. Emma	1. Susie	1. Bobby

Objective THE CHILD WILL DEMONSTRATE KNOWLEDGE OF THE RELATIONSHIP BETWEEN FOOD CONSUMPTION AND HEALTH

Activity HL3 **Food Makes Us Grow Strong and Healthy**

1. Introduce a baby chick or baby guinea pig who will live at school. Let the children take part in feeding the animal and chart its growth. Emphasize food as the source of its growth. Make books and write experience charts about what the baby animal eats to grow bigger.

2. To show children how much they grow, ask them to bring in baby pictures or old baby clothes and find out from parents how big each child was at birth. Then help each child make 2 paper doll cut outs, the first representing the child's birth size and the second representing the child's present size. (Tracing around the child is an easy way to make a size picture).

Activity HL4 **Too Much, Too Little, Just Enough**

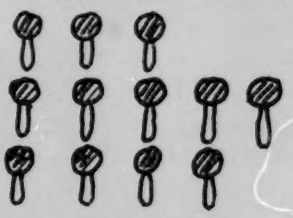
When discussing the unhealthful eating practices of eating too much or too little, discuss appropriate serving sizes for young children. A simplified rule for children to follow is:

"One serving from a food group = one Tablespoon of food for every year of the child's age." Allow children to practice this rule at snack times by providing foods which can be served with a measuring tablespoon. Help each child count out the correct number of measures, depending on his age. Remind him to level off, if necessary.

Later, when a child is accustomed to serving a correct amount, have him estimate a correct serving, and then check it out with a tablespoon to see if he served accurately.

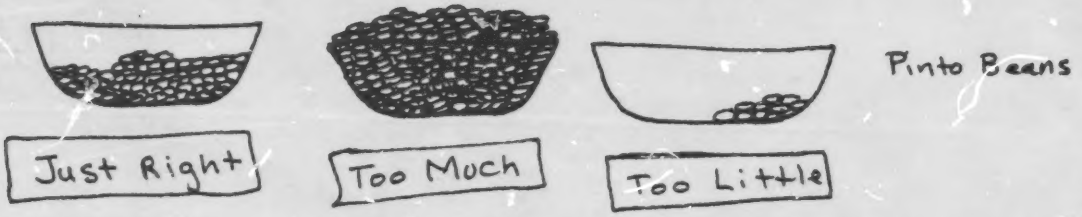
Make a chart to show how many tablespoons of food each child should be served.

I SHOULD SERVE MYSELF THIS MUCH.

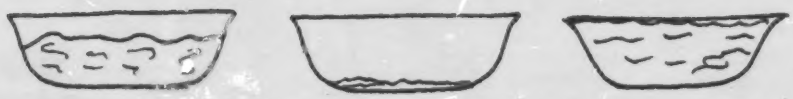


Set up a display of food servings. Using different foods, show appropriate and inappropriate servings for the children in your class. Have them place labels - "Too Much," "Too Little," and "Just Right" on the servings. If necessary, have them check their answers by measuring with a tablespoon. Provide some extra bowls or plates onto which the children transfer the foods they are measuring. (See sample chart on the following page).

Sample Chart For Displaying Food Servings

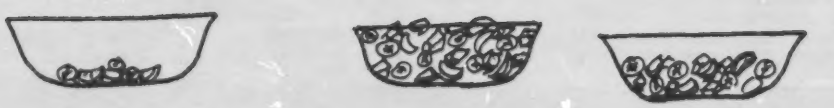


Pinto Beans



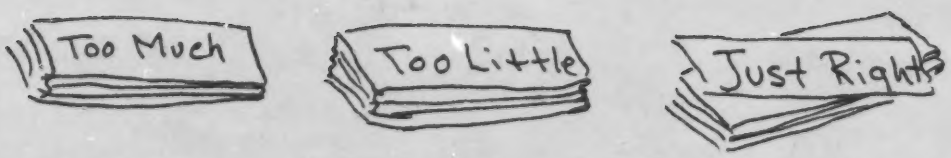
Cereal

Green Beans



Fruit Salad

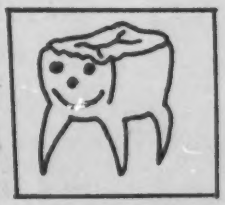
Rice



Discuss how each child's size has changed and explain that growth was helped by eating good foods. Have the children and their parents contribute to a list of nutritious foods the children have eaten to help them grow. Try to make some of these foods from recipes in the cookbook.

Note: If children suggest listing "high calorie" foods from the 5th food group, explain that although those foods often taste good, they are not foods which best help us grow strong and healthy. Omit these foods from the list: candy, soda, potato chips, non-enriched cakes or cookies, etc.

Activity HL5 **Good For Teeth; Bad For Teeth**



Dairy products provide calcium which makes strong teeth. When cooking foods that contain milk ingredients, remind the children that they are building strong teeth today. You can do this by adding a tooth picture to a corner of the first picture-card in the recipe. When introducing the recipe, point out the tooth and discuss why it is on the card. Some recipes which contain dairy products include egg nog, yogurt shakes, cottage cheese pudding, custard, ice cream, and prune whip.

Some foods that we eat contain sugars which cling to the teeth, causing tooth decay. One remedy for this problem is, of course, brushing teeth after eating these foods. To remind children that they need to brush their teeth, add a tooth-brushing picture card to the end of a recipe sequence, or put it on the table where the children will eat. Recipes which especially need the "Brush Your Teeth" card are any recipes which contain raisins, or dried fruit, brown or white sugar, honey, peanut butter, maple syrup, or molasses. But, since brushing teeth after eating is a good habit to learn, the card might be included as part of all cooking activities.

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Objective **THE LEARNER WILL CLASSIFY FOODS ACCORDING TO THE FIVE BASIC FOOD GROUPS**

Activity HL6 **Four Food Group Snacks**

Designate one day of the week to represent each of the four more nutritious food groups. For example, have:

Monday - Fruits and Vegetables Day
Tuesday - Milk Products Day
Wednesday - Meat and Meat Substitutes Day
Thursday - Cereals and Grains Day
Save Friday for a Combination Day

Remind children that there is a 5th food group, but the foods in that group are high in calories. Since we try to restrict our intake of foods in the fifth group, we will not assign a special day to that group.

For snacks on each day help the children prepare foods from the day's food group. On Friday, eat a snack that combines food groups. For example:

Monday's snack could be Bananas.
Tuesday's snack could be cheddar cheese slices.
Wednesday's snack could be roasted peanuts.
Thursday's snack could be Bran muffins.
Friday's snack could be Peanutbutter on Banana slices.

While the children prepare and eat snacks, discuss the name and characteristics of the food they are experiencing while emphasizing its food group.

Sample recipes from *Cook and Learn**

On Monday, cook Oriental Salad.
On Tuesday, cook Cottage Cheese Pudding.
On Wednesday, cook Meat Loaf.
On Thursday, cook Three Bear Porridge.
On Friday, cook Milk and Honey Bread and make Homemade Butter.

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*Whenever Sample Recipes are included under an activity, the recipes named are from *Cook and Learn*, Veitch, B., and Harms, T., Menlo Park, CA: Addison-Wesley Publishing Co., 1980. Any other recipes the teacher desires may be substituted for the Sample Recipes given.

Objective **THE LEARNER WILL UNDERSTAND THAT GERM-CAUSING ORGANISMS ARE SPREAD IN DIFFERENT WAYS**

Activity HL7 **Keep Out, Germs!**

Discuss with the children how germs can be spread during cooking and eating experiences. Help them make a chart which lists rules which can prevent the spreading of germs. Some rules they might include are:

1. Wash hands with soap and water before cooking or eating.
2. Use only clean utensils.
3. Clean utensils, cooking, and eating areas after use.
4. Use only your own cup, bowl, or spoon to eat with.
5. Throw away food which has become dirty or spoiled.
6. Lick only your *own* spoon; not one used by everyone.

Activity HL8 **Clean Hands Do Good Cooking**

Place a "Wash Your Hands" sign, before the first recipe card in a cooking activity to help remind children to cook with clean hands.

WASH YOUR HANDS

Activity HL9 **Keep Foods Fresh and Good**

Introduce the idea of keeping foods clean, fresh, and good to eat.

In order to show children what happens to foods that spoil, because we have not kept them fresh and good:

1. Leave a piece of bread out in the open to dry. Put one in a plastic bag. Check to see which one is soft and good to eat. (wrapping food)

2. Leave a baby food jar of milk out at room temperature. Put another baby food jar with milk in the refrigerator. Check daily for a few days. What made the milk sour and curdle at room temperature? (Refrigeration, packing in ice: picture of fish packed in ice).

3. Ask the children whether they have ever had any food spoil. The length of time fresh food can be kept is fairly short. Keep bread in a plastic bag until it molds or bring in moldy bread.

4. Foods that are canned or dried last longer. Cook dried beans and compare them with fresh, frozen or canned beans.

Objective **THE LEARNER WILL MAKE SAFE USE OF FURNISHING, EQUIPMENT AND MATERIALS IN AND AROUND THE HOME**

Activity HL10 **Cook Safely**

In school cooking experiences, children use equipment that has probably been labeled "dangerous", such as ovens, stoves, griddles, hot plates, and knives. Careful use at school can transfer to careful use in the home. Discuss the potential dangers of each piece of equipment as children are introduced to recipes using them. Help them list rules that will avoid accidents during cooking. When using equipment previously used, refer to the safety chart to refresh the children's memories. Some rules the children might list include:

1. Keep hands away from hot things.
2. Stand far away from the cooks in the cooking area so as not to push them accidentally.
3. Hold knives carefully. Keep your eyes on your work.
4. Clean up spills right away so people won't slip.

Healthful Living

Grades 1-3

Nutrition

Objective **THE LEARNER WILL CLASSIFY FOODS ACCORDING TO FIVE FOOD GROUPS.**

Activity HL11 **Five Fingers; Five Food Groups**

When discussing five food groups, show the children a chart of a hand, whose fingers represent the five food groups. Let the smallest finger represent the fifth group (sweets, fats, and others) to remind children that we eat, if at all, only the smallest amounts of foods in that group, since they are high in calories. Let the other fingers represent the four Basic food groups. List the members of each food group. Discuss that balanced diets are made up of foods from the four Basic food groups eaten every day. Try to show and taste real foods, representing each food group during this discussion or cook recipes which are representative of each food group.

Food Group	**Sample Recipes**
Milk and Milk Products:	Egg Nog, Fondue
Fruits and Vegetables:	Vegetable Confetti
Cereals and Grains:	Brown Rice Burger, Irish Soda Bread
Meat and Meat Substitutes:	Turkey Burger, Tofu Burger

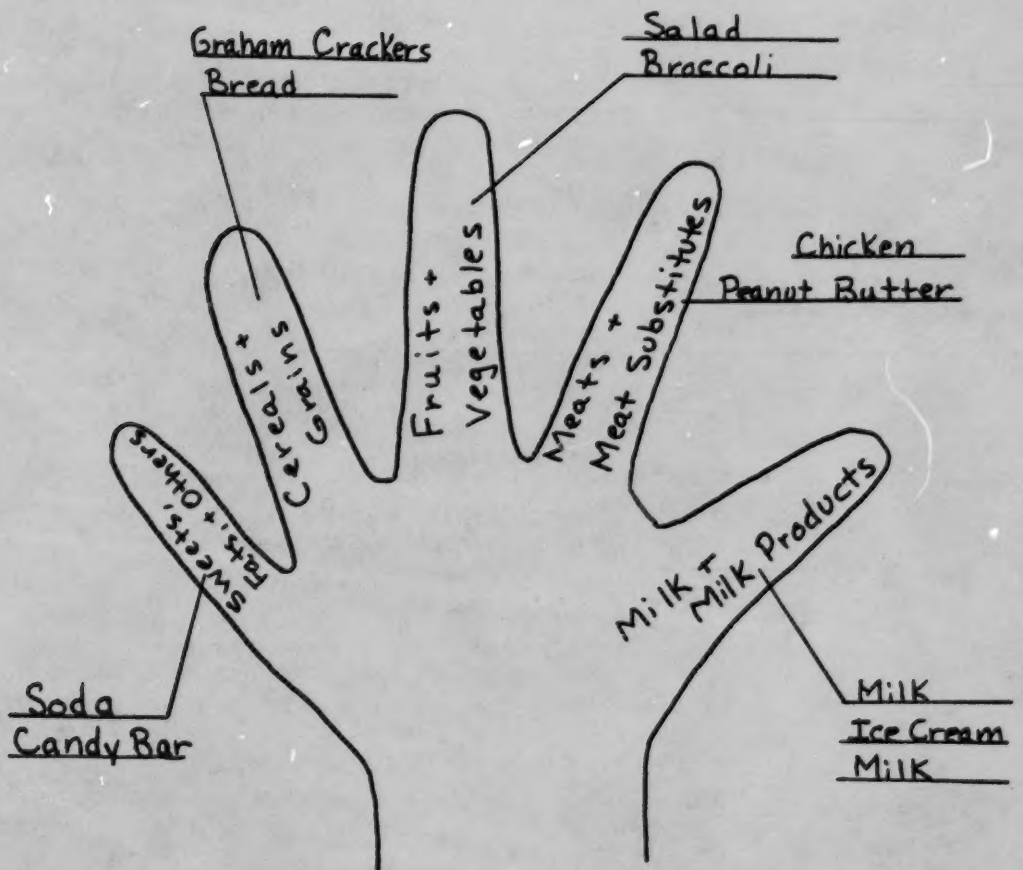
FIVE FOOD GROUPS

Activity HL12 Did I Eat The Foods I Needed Last Night?

With parent's help, have children list everything they ate at home the previous evening, including after-school snacks, dinner, and bedtime snacks. A teacher or volunteer can help each child classify the items on his list, and put them on a personal chart. (The teacher might demonstrate how to do this by using his/her own list and a large chart during a morning group time.) Later, in small groups, discuss these charts to find out:

1) In which food groups were the foods you ate?
2) Did you restrict your intake of foods from the fifth group?
3) How might you change your selection of foods if you ate too many foods in Group 5?
4) If you missed eating foods from one of the "Basic Four" groups, what could you eat next time?

WHAT DID I EAT LAST NIGHT?



Activity HL13 What Shall We Cook?

Tell the children that the next time they cook, they will make a recipe which belongs in a particular food group, (for example, the milk group, or another of the Basic 4). Give them a list of alternative recipes which might all fit into the food group and let them choose which one to make.

Sample Recipes:

Milk and Milk Products	**Meat and Meat Substitutes**
Yogurt Shake	Deviled Egg
Cottage Cheese	Meat Loaf
Cheese Custard	Turkey Burger
Fondue	Peanut Butter Chop
Fruits and Vegetables	**Cereals**
Tempura	Milk and Honey Bread
Cole Slaw	Gingerbread
Apple Sauce	Granola
Fruit Shake	Three Bear Porridge

Activity HL14 Which recipe fits the food group?

Give children a list of recipes of which only one recipe could fit into the food group from which they have been told they will be cooking and have them decide which dish they are going to make.

For example, tell the children:

We are going to make something in the milk group. Which of these recipes is it?

Sample recipes
Cottage Cheese Pudding
Falafel
Potato Latkes
Cloverleaf Rolls

Objective **THE LEARNER WILL DEMONSTRATE KNOWLEDGE OF THE RELATIONSHIP BETWEEN FOOD COMSUMPTION AND HEALTH.**

Activity HL15 Four Food Groups Display

When introducing recipe ingredients for a new cooking activity, help children decide how different ingredients help them grow strong and healthy. Emphasize that the nutrients in foods from the four basic food groups help us in different ways. The foods from the fifth group (sweets, fats, and others) are not necessary to eat every day, since we usually get sufficient amounts of these in foods from the other four more nutritional groups.

Make a display which shows how foods containing nutrients in the four basic food groups help us to grow. Use real foods (which won't spoil if left on display for a week or more), empty containers children can save, or pictures children draw or cut out.

Activity HL16 Different Foods Help in Different Ways

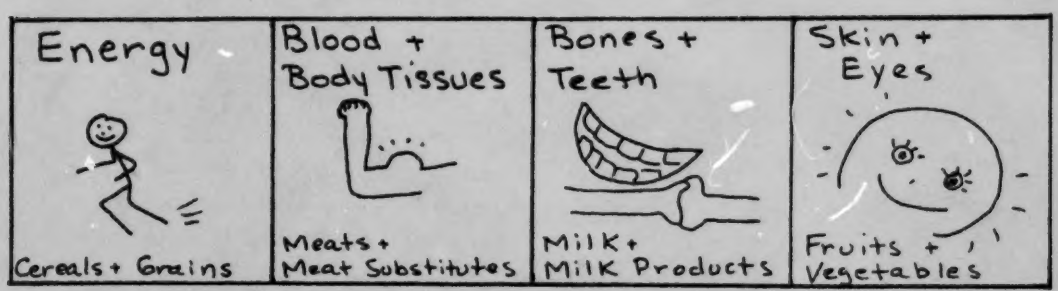
When children are learning the benefits of eating foods in each food group, they can play this game:

1) Each child gets playing card.

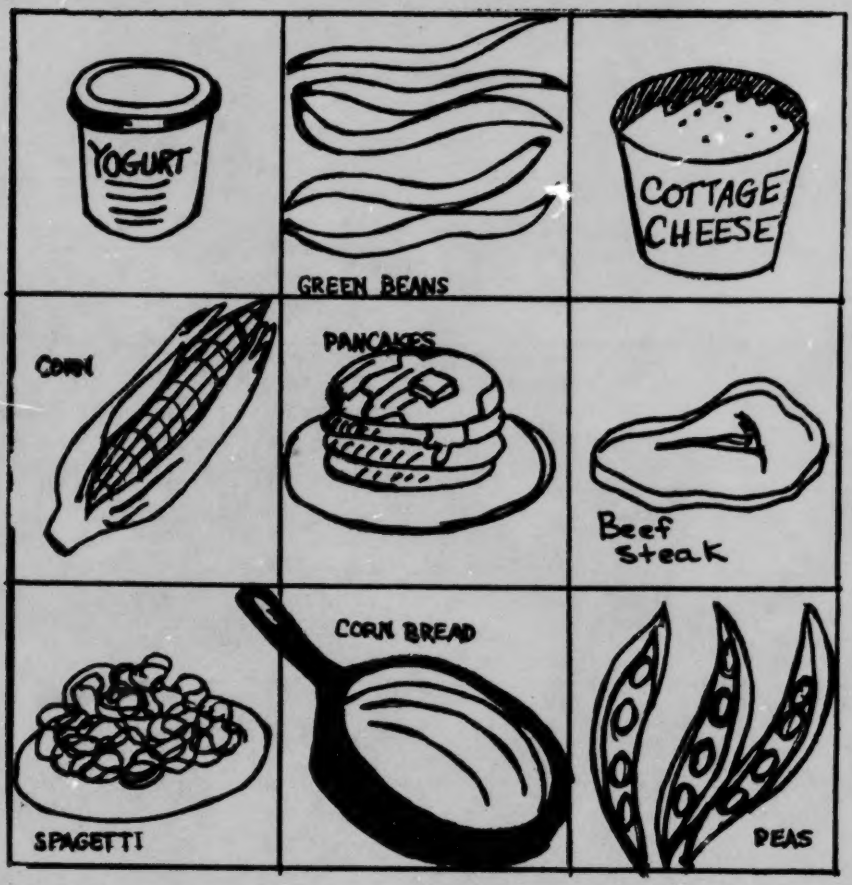
2) Turn all tokens face-down on table.

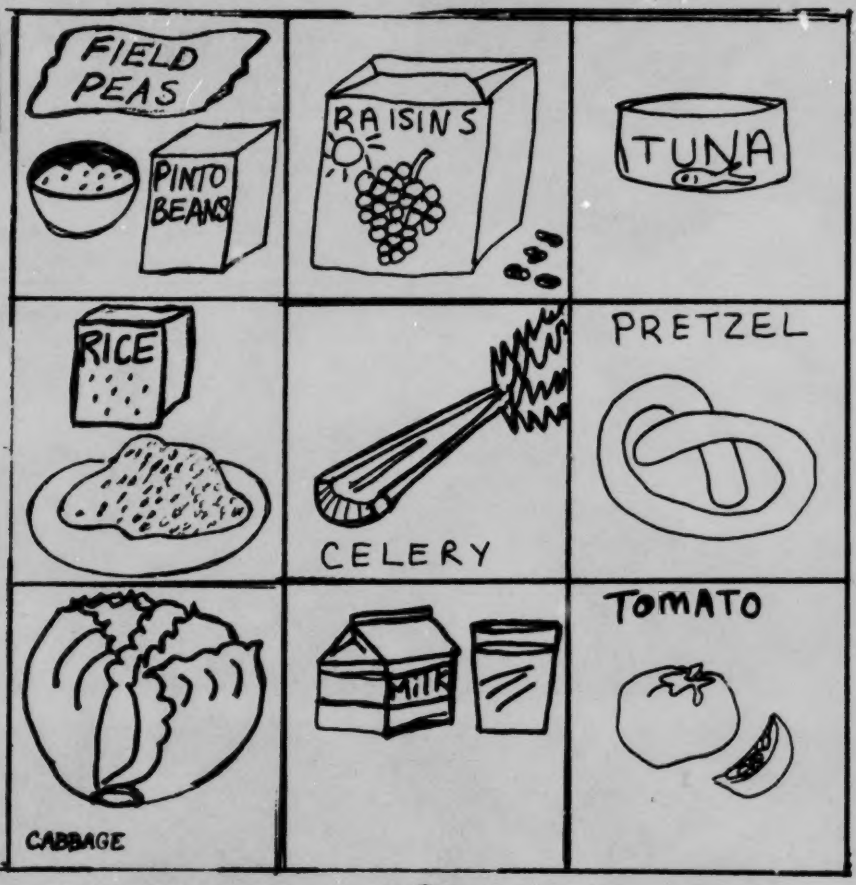
3) Children take turns picking tokens. If they can fit one onto a food space on their card, they tell other players which token it is and on which food it can be placed. If it can't be used, put into discard pile. First child to fill a vertical, horizontal, or diagonal row wins, or play until all children have covered their cards.

It will help children who are not sure of food group information if they play this game in an area where food groups and their food members are displayed. Also, food groups can be marked on each token:



4 game cards
39 tokens
cut out

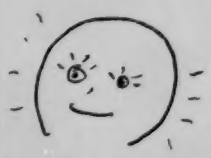




Blood + Body Tissues

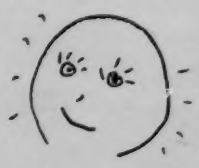
Skin + Eyes

Skin + Eyes



Skin + Eyes

Skin + Eyes



Skin + Eyes

Skin + Eyes

SWISS CHEESE

BREAD

GREEN PEPPER

SWEET POTATO

GREENS

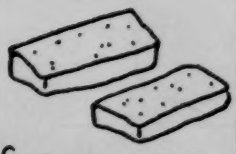
APPLE

Chicken

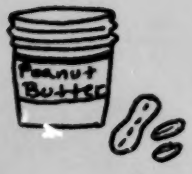
BUTTER MILK

100% BRAN

MUFFIN



fish sticks

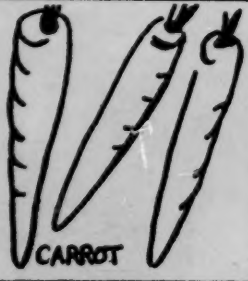


Peanut Butter

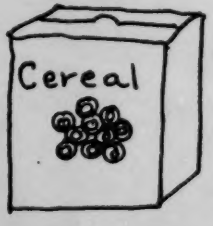
Graham Crackers

OATS

Oatmeal



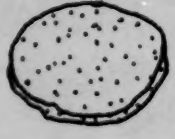
CARROT



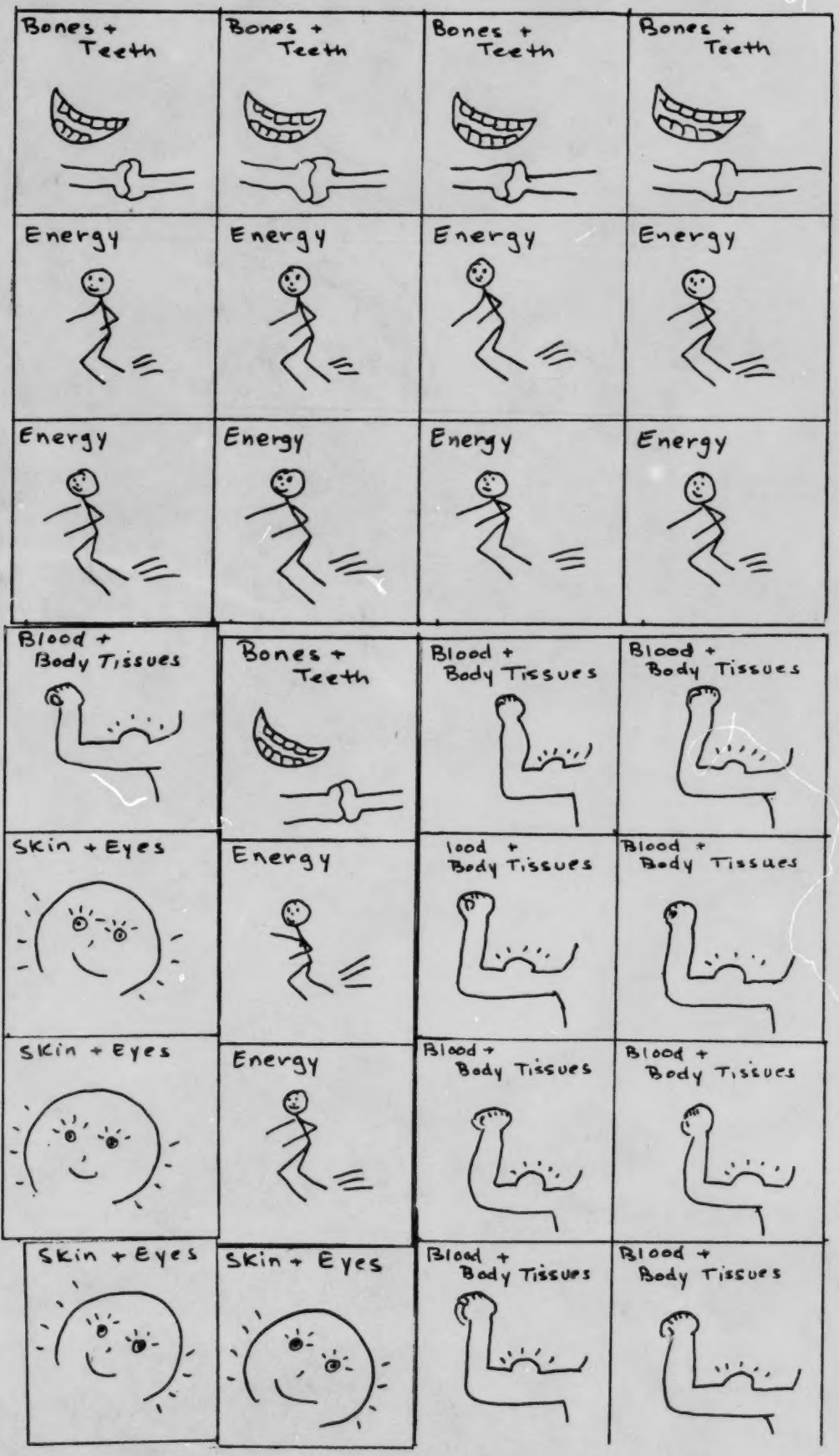
Cereal

egg

Chopped beef patty



ORANGE


Bones + Teeth
Bones + Teeth
Bones + Teeth
Bones + Teeth
Energy
Energy
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Blood + Body Tissues
Bones + Teeth
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lood + Body Tissues
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Energy
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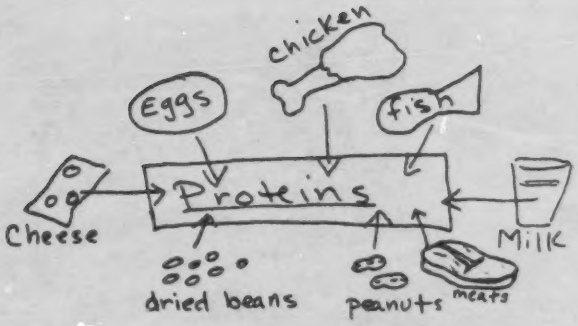
Blood + Body Tissues

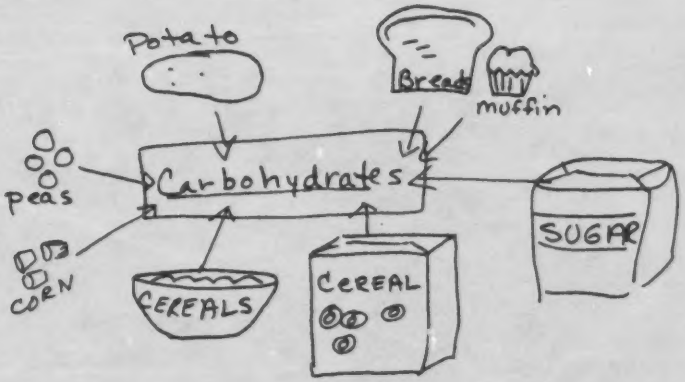
Activity HL17 The Super Six Nutrients in Foods We Cook

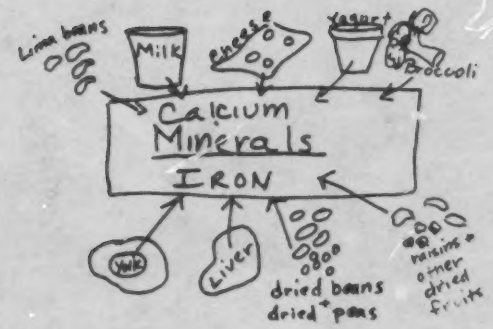
Children can better understand the benefits of eating a variety of foods when they become familiar with the many sources of the nutrients our bodies need everyday. Display a chart listing the following nutrients: carbohydrates, fats, minerals, proteins, vitamins and water. Surround these nutrient names with pictures of foods which are good sources of each nutrient. Children can help by drawing or cutting out the necessary pictures. Cook recipes which contain these foods. Have children look at the display when cooking to see which nutrients they get by eating each dish they prepare.

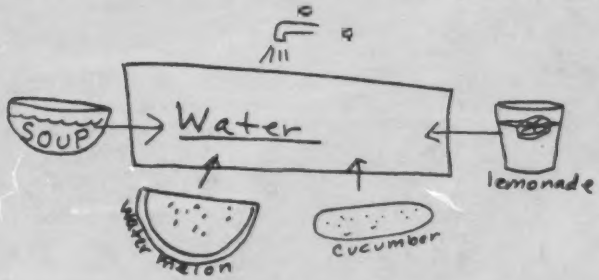
Nutrients	Sample Recipes
1. Carbohydrate	Milk and Honey Bread, Potato Latkes
2. Fats	Butter, Ice Cream, Prune Whip
3. Minerals - Calcium	Yogurt Shake, Custard, Fondue
Iron	Bean Salad, Raisin muffins, Framed Egg
4. Protein	Meatloaf, Peanut Butter Chops
5. Vitamins A	Carrot Salad, Sweet Potato Pie
C	Vegetable Salad, Tomato Juice (uncooked)
B	Three Bear Porridge
D	Egg nog, Deviled egg
6. Water	Lemonade, Chi-Tong

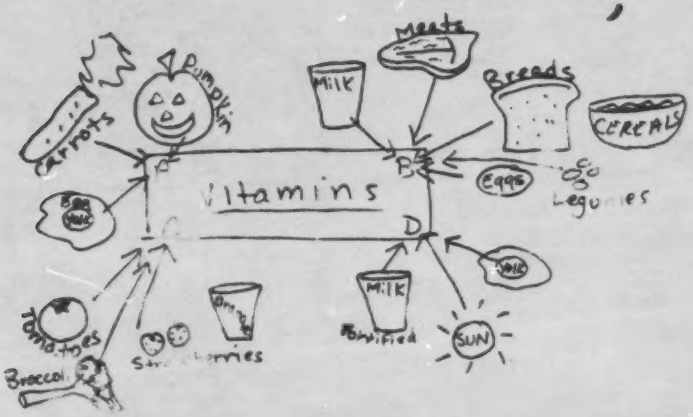
Super Six Nutrients

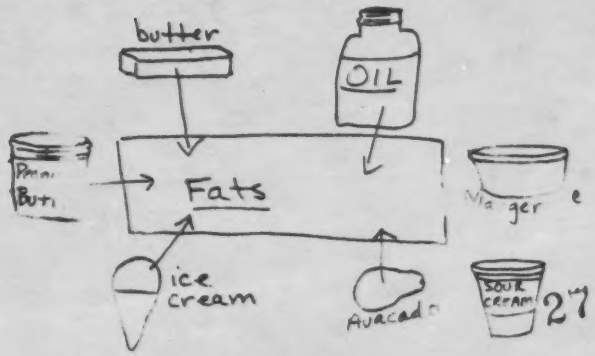






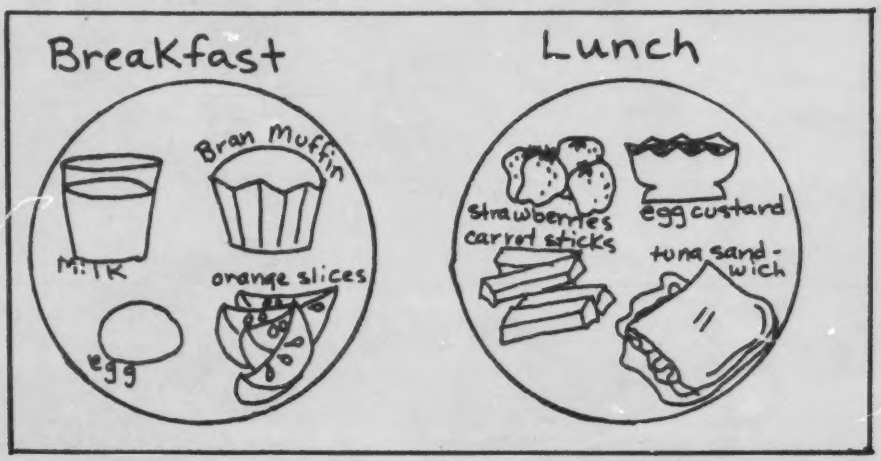






Activity HL18 Creating Healthful Meal Collages

Discuss things you can eat during different meals which help children (or adults) grow strong and healthy. Have children cut out pictures of foods from magazines and glue them onto a paper plate to show a variety of foods that can make nutritious meals. Discuss the fact that breakfast, lunch, dinner, and snacks can include any foods as long as they are nutritious foods from the four food groups.



Discuss meals the children created, and decide whether they are nutritious, which foods could be left out, which added. Let children arrange pictured meals on a bulletin board under the categories: breakfast, lunch, dinner, snacks. Meals can be taken down, shuffled, and resorted by different children. Remind children that it is important to eat healthful meals, especially breakfasts. Meals which consist of a variety of foods from the four food groups, Milk products, Fruits and Vegetables, Meats and Meat Substitutes, and Cereals and Breads, are healthful ones.

Activity HL19 Rough and Tough Foods

When children are learning about foods, such as fruits, vegetables, and whole grains, which aid the digestive process, cook recipes which contain those foods. When introducing these recipes, discuss the benefit of eating these foods daily.

Food	Sample Recipes
Apples, and celery	Apple Salad
Orange	Fruit Salad
Lettuce, Celery	Vegetable Salad
Bran	Bran Muffins

Set up a tasting game which includes roughage foods and other foods. Explain that foods high in roughage or fiber are made of tough fibers which are not completely digestable so they can act as little scrubbing brushes in the intestines. They keep the intestines clean, and should be eaten daily (like brushing teeth should be done). Foods which might be included in the tasting game:

Roughage	Non-Roughage
Bran Cereal	Cheese
Lettuce	Tuna Fish
Apple	Milk
Celery	Yogurt
Whole Grain Bread	

Activity HL20 How Much Do I Serve Myself?

Children can serve themselves more competently at mealtime if they learn to estimate proper portion sizes. Help children make a large chart to which they can refer when learning to estimate how much of a food they need to serve themselves. Children can draw or cut out pictures to be used on the chart.

Set up a "Learn to Estimate" activity. Provide measuring cups, an easy to read scale, measuring spoons, and some foods which children can practice serving: water for liquids, some plastic raw vegetables and fruits, dried beans and cereal, dry macaroni, and "play-dough" (for meat.) Later, children can estimate servings and check their accuracy through measurement.

WHAT EQUALS ONE SERVING?

Milk and Milk Products*

1 cup milk or yogurt

or

2 slices cheddar cheese

½ cup pudding

½ cup ice cream

¼ cup cottage cheese

Meat or Meat Substitutes

1½ ounces cooked meat, fish, poultry

or

1-2 eggs

3/4 cup dried beans or peas

3 T. peanut butter

Fruits and Vegetables

½ cup cooked vegetable

or fruit

or juice

1 cup raw vegetable or fruit

1 medium piece of fruit

Grain

1 slice bread

3/4 cup dry cereal

½ cup cooked cereal, pasta, grits

*These are only suggested serving sizes. They are not nutrient equivalents.

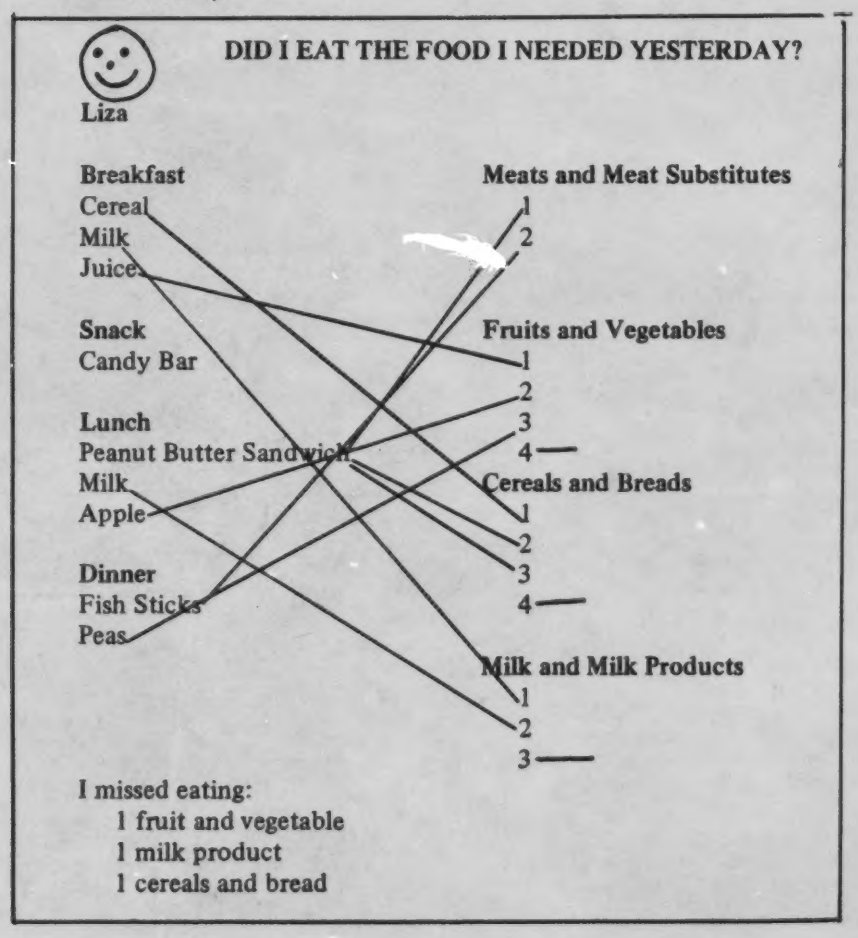
Activity HL21 How Much Should I Eat In A Day?

Display a chart in the classroom showing the number of servings a child should eat from the four basic food groups every day. (Foods from the fifth food group should be restricted under normal conditions.)

HOW MUCH SHOULD I EAT IN A DAY?

Food	Servings
Meat or Meat Substitutes	2
Fruits and Vegetables	4
Breads and Cereals	4
Milk and Milk Products	3 Cups

Have each child list everything he/she ate the previous day. (Parents can help with this.) With a teacher's or volunteer's help, each child can fill out a recording form to see which dietary requirements he/she did or did not fulfill. Discuss how each child might try to eat more carefully chosen foods. (See chart below)



Activity HL22 Limit Foods Containing Fats.

Explain to children that one essential nutrient from the fifth food group is fats. Fats help make healthy skin, help vitamins do their jobs, and provide energy. But, if eaten in great quantity they may also cause people to gain too much weight. Children can learn to identify foods which contain fats and thus choose to restrict their intake of these.

Introduce children to an assortment of foods containing fats, including butter or margarine, peanut butter, hamburger, and oil. Provide paper towels for children to place these foods on. Allow children to examine the foods and make a list of some characteristics fatty foods share.

Have children cook some dishes which use a fat or oil for frying or baking. Repeat the recipe without the fat or oil using non-stick coated utensils. Help children report the differences. Are foods cooked without fats still good to eat?

Sample Recipes	Change
Framed egg	Leave out butter. Try baking instead of frying.
Vegetable Patties	Bake or use non-stick griddle.
Potato Latkes	Bake or use non-stick griddle.
Corn fritters	Bake instead of deep frying.

Healthful Living

Grades 4-6

Chemicals

Objective **THE LEARNER WILL BE AWARE OF POTENTIALLY ADVERSE INFLUENCES ON HEALTH FROM THE ENVIRONMENT.**

Activity HL23 Caution Poison!

1. Many fresh foods we eat have been sprayed with pesticides during their growth. This enables farmers to provide us with enough unblemished food to feed the people of America and many other countries. However, the poisons which kill insects may also be harmful to people. Therefore, we must all learn to wash all fresh fruits and vegetables thoroughly before we eat them. When cooking recipes which contain fresh fruits, remind the children to wash fruits as a regular part of the cooking preparation.

2. Many commercially prepared foods contain chemical preservatives which give them longer shelf-life. However some chemicals in these preservatives may be harmful to people if eaten in quantity over long periods of time. Children must learn to choose whether or not they want to eat foods containing preservatives, and if they do not, then they must learn the alternatives.

Provide labels or packages of familiar foods which contain preservatives. For example: some powdered lemonade mixes, some cake, cookie, and muffin mixes, some salad dressings, and some pudding mixes, bacon, sausage, breads, and cereals.

Help the children read the lists of ingredients on these food packages and recognize preservatives.

For example,

Breads - Sodium diacetate, chloromine T, potassium bromate, calcium propionate
Cakes - Sodium alginate, butyric acid, aluminum chloride
Cereals - butyrated hydroxyanisole, sodium acetate
Processed Cheese - calcium citrate, sodium phosphate, aluminum potassium sulfate.
Processed Meats - sodium nitrate, sodium nitrite, asafoetida, magnesium carbonate, sodium ascorbate, msg.

Help the children list ways they might avoid consuming preservatives:

1. Read ingredients labels and choose products with limited preservatives.
2. Cook it yourself from basic ingredients.

Have the children cook from basic ingredients, recipes which are similar to the commercially prepared foods that contain preservatives. Discuss how the foods they cooked compare with their commercial counterparts.

Sample Recipes

Lemonade
Assorted Salad Dressings
Bran Muffins
Corn Meal Muffins
Fruit Muffins
Zucchini Muffins
Corn Bread
Brownies
Cottage Cheese Pudding
Custard
Milk and Honey Bread
Granola

Objective **THE LEARNER WILL KNOW HOW TO MAINTAIN PERSONAL DENTAL HEALTH**

Activity HL25 **Plan a Dental Health Meal**

When discussing dental health, have several small groups each make up a menu, in which most foods somehow contribute to dental health. Discuss the recipes using the following guidelines:

1. What "Super Six" nutrients does each food contain to contribute to dental health? (including both gums and teeth)

2. How appealing is each menu? (e.g., variety of tastes, colors, textures, etc.)

3. At which meal of the day might you choose to eat this menu?

For Lunch or Dinner:

Menu*	Food Group	Helps Build
Fruit Shake	Fruits and Vegetables	Contains Vitamin C for gums
Vegetable Salad	Fruits and Vegetables	Tomato contains Vitamin C
Quiche Lorraine	Milk and Milk Products	Calcium and Phosphorous build strong teeth
Orange Ice Cream	Fruits and Vegetables	Contains Vitamin C for gums Calcium and Phosphorous build strong teeth

or For a Snack

Lemonade	Fruits and Vegetables	Vitamin C for healthy gums
Cheese Pretzels	Cheese in Milk and Milk Products	Calcium and Phosphorous build strong teeth

Remind the children that teeth should be cleaned after eating by rinsing, brushing, and/or flossing.

*Sample Recipes from *Cook and Learn*

MATH

Math

Pre-school-K

Classification

Objective **THE CHILD WILL BE ABLE TO CLASSIFY ACCORDING TO SELECTED CHARACTERISTICS**

Activity M1 **The Taste and Tell Game**

The teacher arranges a selection of ingredients on a table divided into four areas – sweet, sour, bitter, and salty. The children taste each ingredient and place it into its proper area. The teacher can also supply children with a "recording sheet" upon which they can show their results.

Sweet ingredients might include: honey, brown or white sugar, molasses, raisins.

Sour ingredients might include: vinegar, yogurt, buttermilk, lemon, sour cream.

Salty ingredients might include: salt, bacon-bits, soy sauce.

Bitter ingredients might include: cocoa, lemon rind, orange rind.

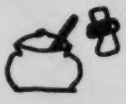
Sample Recipes:

Sweet	Honey-Granola, Milk and Honey Bread. Molasses-Irish Soda Bread, Carrot Cookies, Gingerbread.
Sour	Vinegar - Sweet and Sour Dressing, Ketchup. Yogurt-Apricot Froth, Yogurt. Lemon-Lemonade, Applesauce. Sour Cream-Norwegian Pancakes, Billy Goat Gruff Cookies.
Salty	Bacon-Quiche Lorraine Filling, Egg Foo Yung Variation. Salt-Deviled Egg, Cheese Pretzels. Soy Sauce-Soyburgers, Tofu Burgers.
Bitter	Cocoa - substitute for carob powder in Brownies. Orange Rind-Cranberry-Orange Fruit Muffin, Oriental Fruitballs. Lemon Rind-Applesauce cupcakes, Graham Cracker Apple Pie.

Taste and Tell Game Recording Sheet

SWEET	SOUR	BITTER	SALTY

Cut and Paste into proper Taste and Tell Columns.

Honey	Salt	Cocoa	Sugar
			
Lemon Rind	**Bacon**	**Yogurt**	**Vinegar**

Activity M2 **Classify Colors of Foods**

Red
1. Strawberries
2. Tomatoes
3. Unpeeled Apple

Orange
1. Orange
2. Carrot
3. Cheddar Cheese

Yellow
1. Unpeeled Banana
2. Lemon
3. Cornmeal

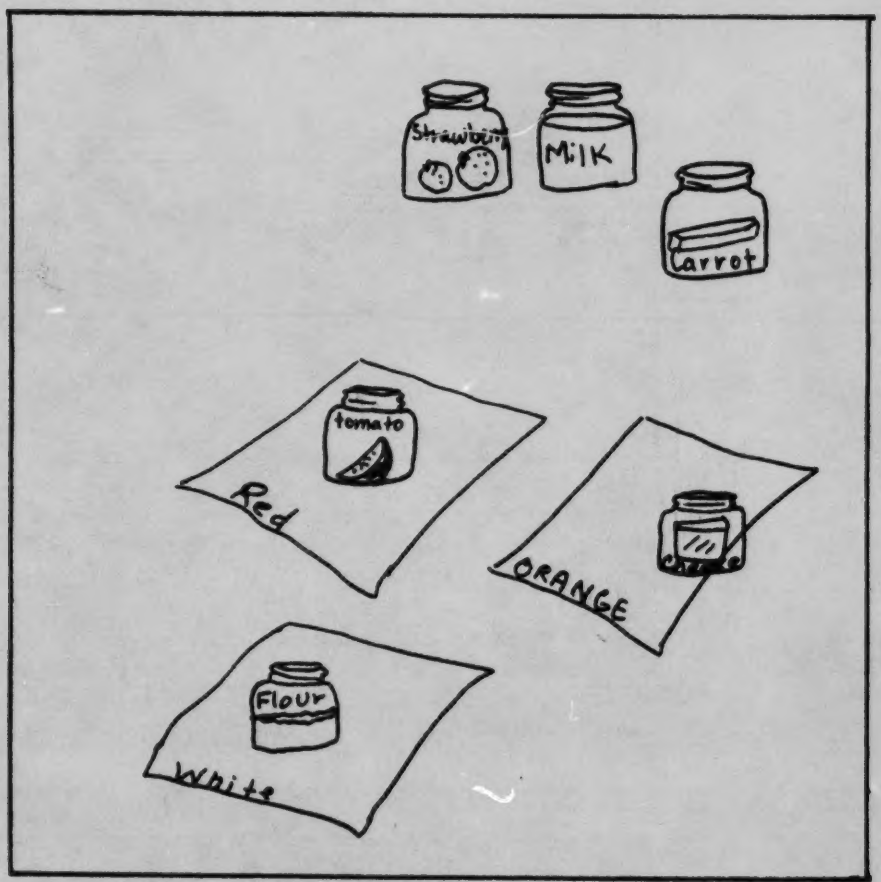
Green
1. Celery
2. Fresh Peas
3. Parsley

Purple
1. Grape juice
2. Purple cabbage
3. Blueberries

White
1. Sugar
2. Flour
3. Milk

Brown
1. Molasses
2. Walnuts
3. Raisins

The teacher can put each of the above ingredients into labeled baby food jars. Have the child place the correct jars onto correct pieces of colored paper, or simply group similar jars together.



Activity M3 **Find Four Food Groups**

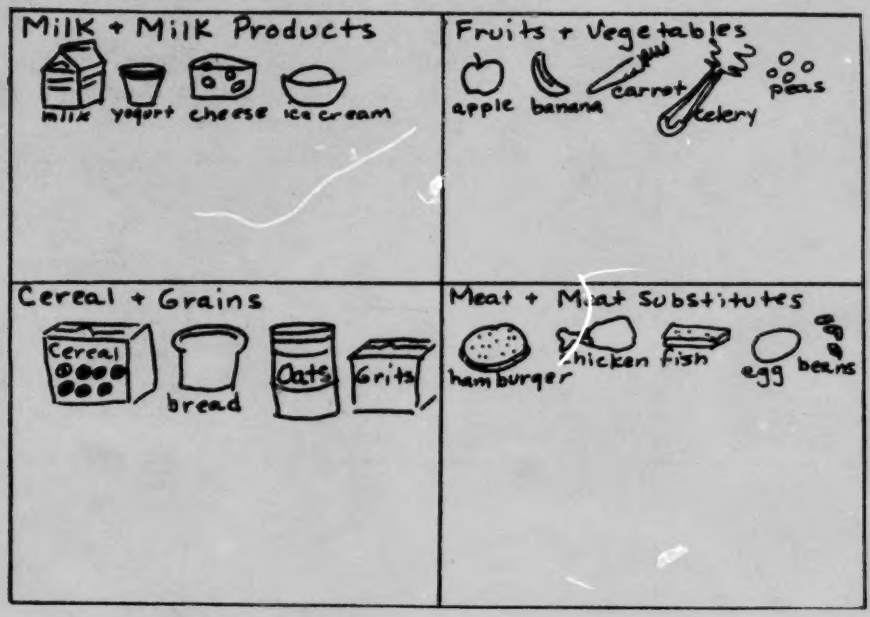
During this game, remind children that there is one more food group which contains foods that we try not to eat too often, e.g., sweet foods, fats and oils, etc. Since we try not to cook things from this group, we will not use it in this activity.

After the children cook, the teacher can ask them to classify recipes into the four food groups.

Sample recipes

1. Vegetable Salad
2. Fruit Shake
3. Yogurt
4. Fondue
5. Meatloaf
6. Turkey Burger
7. Cornmeal Muffins
8. Three Bear Porridge
9. Peanut Butter Chops
10. Won Ton Shrimp
11. Apple Salad
12. Potato Latkes

Divide a bulletin board into four areas, each area for one food group. Use pictures and words to define each group.



After the children complete the food preparation, help them decide in which food group the product belongs. Some recipes might be put in several areas because they contain ingredients of several food groups. Have the child explain why he put a recipe in a certain place, using the recipe cards to show the ingredient on which he based his choice, e.g., cornmeal muffins could be in the milk or breads groups because they contain relatively large amounts of both these ingredients. However, the teacher should guide the child towards making a correct decision about how the food should be categorized.

Activity M4 **The Sniff and Match Game**

Fill small containers with spices in them. Make two of each, but label only one. To make each container, saturate a piece of cotton with a spice and then put the cotton into a sealed baby food jar, with holes punched into the top, or sew the cotton up in a piece of cloth, like a sachet.

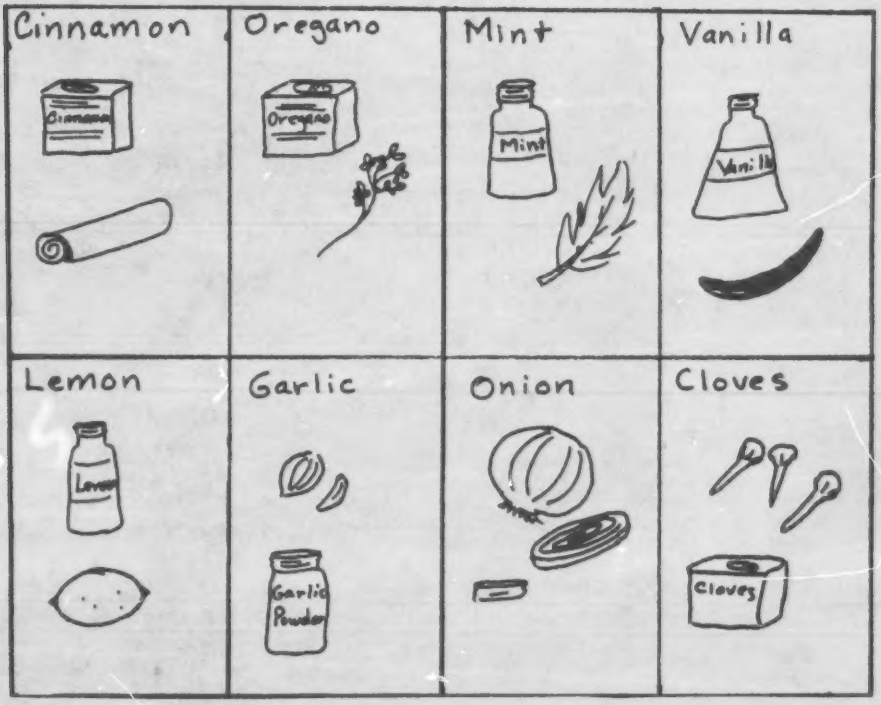
The children smell and match same fragrances.

Note: Use only two or three fragrances at a time since noses become less able to discriminate successive fragrances. Change the fragrances to maintain interest.

Sample recipes

Nutmeg: Eggnog, Apricot Froth, Pumpkin Cookies
Lemon: Lemonade, Hummus Bi Tahina
Clove: Tomato Juice, Oatmeal Cupcakes
Mint: Tabbouli, Israeli Labneh
Onion: Hot Rice Salad, Meatloaf, Potato Latkes
Ginger: Australian Oatcakes, Turkey Burger, Gingerbread People
Curry Powder: Australian Cheese Curry Biscuits
Cinnamon: French Toast, Fruit Muffins, Tomato Ketchup
Allspice: Peach Fruit Muffin, Tomato Ketchup
Garlic: Hummus Bi Tahina, Falafel
Sage: Meatloaf
Chili Powder: Rice-Nut Steak
Vanilla: Banana Cookies, Brown Sugar Cookies
Oregano: Hot Rice Salad

SNIFF AND MATCH LABELS



Activity M5 **What Can We Make From This?**

a. Introduce an ingredient and use it in several recipes:

1) Show pictures or read books about where it comes from.
2) Visit a store, garden, farm, etc., to see where we can get the ingredient.
3) Relate the ingredient to its proper food-group by displaying it with other foods in that group.
4) If possible, display the food in different forms.
For example: Unprocessed oats, oatmeal, baby oat-cereal, instant oatmeal
- or -
fresh pineapple, frozen, dried, or canned pineapple

b. Next, cook different recipes that use that ingredient. You might use the sample recipes from the recipe lists in "d". If possible, begin with the recipe where the finished product shows the ingredient closest to its raw state, e.g., with oatmeal, use the granola recipe first.

c. Discuss:

a) How were the different recipes alike or different?
b) How was the special ingredient the same or different in each recipe? e.g., harder/softer, visible or invisible, tasted different.

d. Make charts showing:

a) "Who liked which recipe the best?"
b) "Which recipes go into each basic food group?"
c) "How many ingredients were in each recipe?"
d) If a variation is available for children to select (e.g., sugar or maple syrup to go into porridge) then, "Who used which ingredient?"
e) "Which recipe is eaten hot and which is eaten cold?"

Sample recipes

Oatmeal
1. Granola
2. Oatmeal Bonbons
3. Apple Oatmeal Cookies
4. Australian Oat Cakes
5. Vegetable Patties
6. Three Bear Porridge
7. Oatmeal Cupcakes

Rice
1. Hot Rice Salad
2. Brown Rice Pudding
3. Brown Rice Burgers
4. Rice-Nut Steak
5. Peanut Butter Chops

Milk/Cream
1. Egg Nog
2. Yogurt
3. Custard
4. Ice Cream
5. Butter
6. Cream Cheese
7. Cottage Cheese
8. Buttermilk Biscuits
9. Milk and Honey Bread

Eggs
1. Deviled Egg
2. Framed Egg
3. Egg Salad
4. Egg Foo Yung
5. French Toast
6. Egg Nog
7. Whole Wheat Waffle
8. Custard

Wheat Flour

1. Wheatberry Pancake
2. Chapatis
3. Whole Wheat Waffle
4. Milk and Honey Bread
5. Pita
6. Cheese Pretzels
7. Armenian Meat Tart or Quiche Lorraine Crust
8. Brown Sugar Cookies
9. Tempura
10. Fondue

Peanuts/Peanut Butter

1. Trail Mixes
2. Peanut Butter
3. Stuffed Celery
4. Lettuce Roll-Ups
5. Granola
6. Granola Candy
7. Peanut Butter Chops
8. Zucchini Muffins (use peanuts for chopped nuts)
9. Teem Gok
10. Peanut Butter Candy
11. Peanut Butter Cookies
12. Peanut Butter Cupcakes
13. Peanut Butter Frosting

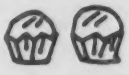
Big-Little

Activity M6 **Big or Little - Classification According to Size**

Some recipes lend themselves to making one large or two small portions. Make a chart to show who made a big one and who made two little ones.

Sample recipes

Cottage Cheese Pancake
Norwegian Pancake
Swiss Pancakes
Bran Muffins
Cornmeal Muffins
Fruit Muffins
Pumpkin Puffs
Wheatberry Pancake
Zucchini Muffins
Meatloaf

Who Made One Big One?	**Who Made Two Little Ones?** 
7	
6	
5	5
4	4 Linda
3 Liza	3 Janet
2 Jimmy	2 Andree
1 Emma	1 Debby

Objective **THE CHILD WILL BE ABLE TO IDENTIFY ORDER IN A SET, USING TERMS "FIRST", "LAST", AND "IN BETWEEN."**

Activity M7 **Switching Places**

1. Using recipe cards from cooking projects the children have completed, identify the first and last steps of that recipe. Then imagine or actually experiment to see if the first and last steps can be switched. One recipe in which the first and last steps might be interchanged is "Chi Tong". Almost all other recipes cannot be changed. Discuss why.

   For example: Fruit Muffins. Can the last step, pouring batter into two muffin tins and then baking be switched with the first step? Why or why not?

2. Using recipe cards from cooking projects the children have completed, identify the first, last, and *in between* steps. Experiment to find out whether the *in between* steps can be exchanged with each other.

   Sample recipes in which any *in between* steps can be exchanged, with little change in the process and product are:

   a. Egg Nog
   b. Fruit Shake
   c. Cole Slaw
   d. Fruit Salad
   e. Vegetable Salad
   f. Cottage Cheese Pancake
   g. Yogurt Shakes
   h. Apple Salad
   i. Macaroni Salad
   j. Oriental Salad

   Sample recipes in which some of the *in between* steps would be difficult to exchange are:

   a. Deviled Egg
   b. Egg Foo Yung
   c. Framed Egg
   d. Bran Muffins
   e. Bunuelos
   f. Buttermilk Biscuits
   g. Cheese Pretzels
   h. Crepes
   i. Milk and Honey Bread
   j. Silver Wrapped Chicken

3. Set up and do a recipe the children have recently done and make a change in the sequence. See if they notice or tell them about the change. Ask them if the recipe was more or less difficult, or the same as before.

   For example: Apple Oatmeal Cookies. Put in flour and vanilla, mix, and then add sugar and butter. Then mix. It is usually easier to cream sugar and butter before adding other ingredients.

Objective **THE CHILD WILL BE ABLE TO SOLVE PROBLEMS BY USING ONE-TO-ONE MATCHING**

Activity M8 **Count Them Out**

When using picture-word card recipes, the child can figure the correct amount of an ingredient required by matching the real ingredient to the pictures on the recipe cards.

Sample recipes		What Is Counted
Apple Salad	-	5 raisins
Carrot Salad	-	10 raisins
Oriental Salad	-	2 chunks pineapple
Bean Salad	-	8 kidney, 8 garbanza, and 15 black beans
Hot Rice Salad	-	5 olive slices
Granola	-	6 raisins
Cheese Pretzels	-	4 pretzels
Applesauce Muffins	-	7 raisins
Fruit Muffins	-	7 raisins
Pizza Toppings	-	4 pieces onion, 5 slices mozzarella cheese, 3 slices pepperoni, salami, olives, or mushrooms
Falafel	-	form 3 balls
Peanut Butter or Variations	-	10 peanuts or 5 almonds or 1 walnut and 3 cashews
Macaroni Salad	-	5 slices frankfurters

Many recipe cards can be modified to provide additional 1 to 1 matching experiences.

For example: Won Ton Shrimp - Change card No. 4 from 1/8 t. chopped water chestnuts to two pieces of chopped water chestnut.

or

Alaskan Cranberry Relish - Change card No. 3 from 2 T. cranberries to 10 cranberries.

Objective **THE CHILD WILL BE ABLE TO COUNT FROM 1 to 10.**

Activity M9 **From One to Ten**

Using the above recipes, have the children count as they match ingredient to picture.

When measuring amounts in recipes by teaspoons or tablespoons, have the children count out how many they need to add.

Fractions

Objective **THE CHILD WILL BE ABLE TO IDENTIFY ½ AS ONE OF TWO EQUAL PARTS OF A WHOLE**

Activity M10 **Cutting Halves**

Use recipes which require cutting ingredients into halves.

Lemonade
Carrot Salad

Activity M11 **Two Halves Make a Whole**

Use recipes which require using half a cup of an ingredient. To do this, begin with one full cup. Tell the children you need only half the amount you have in the cup, so you must divide it into two amounts that are the same, and use only one of them. Pour contents into two unmarked cups until the children agree that the cups hold equal amounts. After demonstrating, let the children go through the same process when doing their own cooking.

Sample recipes

Chicken Soup
Fondue
Cheese Pretzels

Note: It is easier to use cups instead of tablespoons or teaspoons, since it is easier to see the result using a larger amount.

Time

Objective **THE CHILD WILL BE ABLE TO MATCH CLOCK FACES**

Activity M12 **When Will It Be Done?**

Provide easy-to-read clock and a picture of a clock for this activity. When cooking recipes which need to be timed, show on the pictured clock where the real clock's hands will be when the food is done. Place the pictured clock next to the real clock. Tell the children that the food will be done when the hands on the real clock are the same as the hands on the pictured clock. Have the children tell you when the food is done.

Sample recipes

Tomato Juice
Australian Oat Cakes
Buttermilk Biscuits
Cloverleaf Rolls
Milk and Honey Bread
Armenian Meat Tarts
Silver Wrapped Chicken
Granola
Yogurt
Bran Muffins
Cheese Pretzels
Various Muffins
Pizza
Meat Loaf
Zucchini Quiche

Math

Grades 1-3

Shapes

Objective **THE LEARNER WILL DEMONSTRATE DEVELOPMENT OF SOME GEOMETRIC CONCEPTS COMPARABLE TO HIS/HER MENTAL MATURITY.**

Activity M13 **Cooking Shapes**

When cooking appropriate foods, have children cut out or shape their products into triangles, circles, squares or rectangles.

Sample recipes

Egg salad sandwich	Cheese Wafers
Framed egg	French Toast
Australian Oat Cakes	Sandwich Fun
Cheese Pretzels	Assorted Cookies

Cookie cutters or knives can be provided and, if necessary, models to which the children can refer. Before eating the shapes, let several children take surveys to find out how many of each shape were made. Have them report their results during a group discussion time. The teacher or a volunteer may need to help compute results.

SAMPLE SURVEY RECORDING SHEET

Who took the survey? Liza

What is the survey about? How many shapes were made.

Circles		Rectangles		Squares		Triangles	
Liza	3	Jimmy	2	James	3	Susie	3
Emma	4	Bob	6	Fred	4	Jinsy	6
Barbara	3	Sara	4	Sally	2	Nicky	4
Marilyn	2						
Total	12		12		9		13

Note: To challenge children of greater maturity, provide a ruler, and have them make shapes of specific dimensions. For example, "Make a square with 2 inch sides." "Make a circle that measures 3 inches across."

Objective **THE LEARNER WILL SHOW EVIDENCE OF UNDERSTANDING AND ABILITY IN DEALING WITH MEASUREMENT IN WAYS THAT ARE COMPATIBLE WITH HIS/HER MENTAL MATURITY.**

Activity M14 **Measuring Lengths**

Some recipes require specific lengths of an ingredient to be used in cooking. For younger children, provide a picture on the cutting board which shows the same length that the ingredient must be. For example, if the recipe calls for 1 inch or 1 centimenter of carrot, provide a picture of a 1 inch measure. Older children can use standard rulers.

When introducing the recipe, demonstrate how to measure the ingredient, mark where the cut should be, and then cut.

Cutting Board with magic marker picture of 1" measure.

Sample recipes in which measurement can be used:
Banana Egg Nog, Fruit Shake, Tomato Juice (uncooked), Cole Slaw, English Muffins, Rieska, Pizza Dough, Sour Dough Biscuits, Tortilla, Falafel, Silver Wrapped Chicken, Gingerbread People.

Activity M15 **Measuring Temperature**

Some recipes require the use of a thermometer in the cooking process. Use a thermometer which children can read easily. For younger children, put a mark at the proper temperature reading.

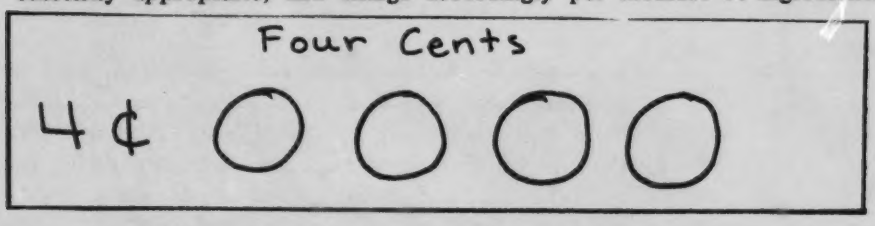
Sample recipes
Yogurt, Pizza Dough, Zucchini, Apple or Corn Fritters, Tempura, Teem Gok

Oven thermometers can be carefully used for all recipes that require any baking. It is fun and interesting to use a thermometer when making ice cream or lemonade. Help children read the thermostat on ovens or electric griddles. They can compare the thermostat and oven thermometer readings.

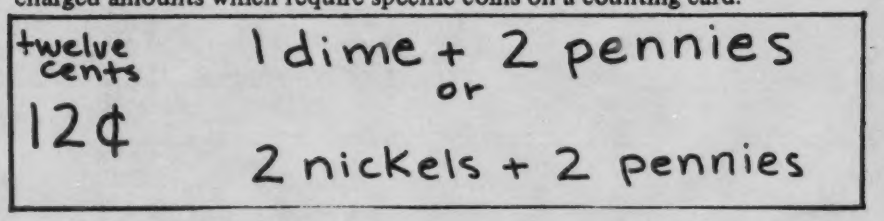
Activity M16 **Buy Your Ingredients**

When children are learning about money, set up a store so that ingredients needed in a recipe can be purchased for use in cooking. To begin with, the storekeeper might be a cross-age tutor or parent volunteer who can help children figure how much to pay. (Later children in the class can do that job.) Use play money (commercially printed or colored and cut out by children) or, if possible, real coins. If buying all ingredients needed in a recipe is too demanding, sell only one or two ingredients, and provide the rest at the cooking table as usual.

Price foods according to the abilities of the children to calculate payment. For example, less able children may be charged only 4 cents for an item, and may use a counting card onto which they can match pennies, using one-to-one correspondence. Older children can check supermarket ads for prices currently appropriate, and charge accordingly per measure of ingredient.



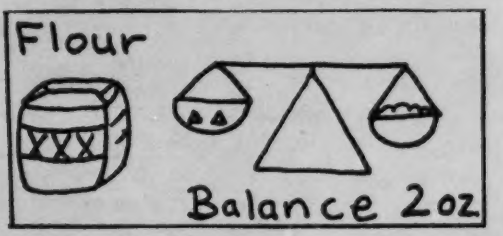
Children who have an understanding of the value of specific coins can be charged amounts which require specific coins on a counting card.



And, of course, children with full knowledge of money can be challenged to provide payment without any help (12 cents) or to pay using a dollar, and make sure they receive correct change.

Activity M17 Cooking By Weights

Children can use a balance scale to weight ingredients needed in recipes instead of using a cup measure. When preparing this type of cooking experience, first modify the picture-word sequence card to indicate that the child must weigh the ingredient. Tell children that measuring for cooking is done by weight in many countries, for example, England. If possible, show a cookbook page with recipes by weight.



When setting up the cooking activity, find out how much the ingredient to be measured weighs. Then prepare the correct standard weight for one of the pans. When introducing the recipe to children, demonstrate how to weigh the correct amount of ingredient by making the scale balance. Emphasize careful, gentle use of the scale to avoid spillage. Try to get each child first to estimate how much of the ingredient he needs, check his estimate through use of the scale, and then make necessary adjustments while the ingredient is on the scale.

Sample recipes

Tomato Juice, Cheese Pretzels

Time

Activity M18 **When Will It Be Done?**

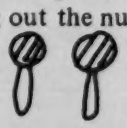
When cooking recipes which require timing, figure out with children at what time the recipe will be done. Second grade children can read a digital clock while older children can read a traditional clock. Allow the children to tell the adult to check the food when the correct time arrives.

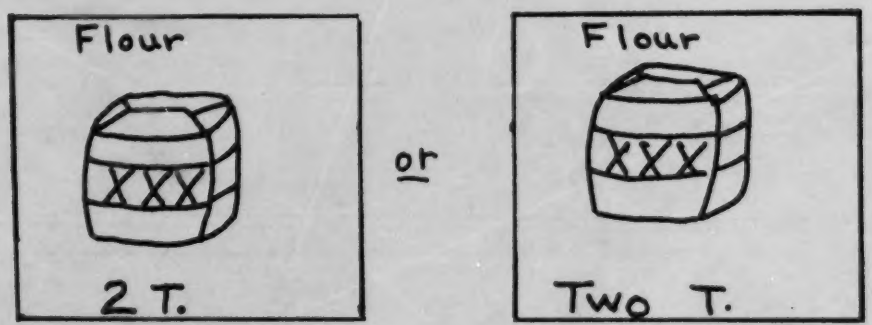
Children, with greater ability can read or be told how long a recipe must be timed, and then figure out when it will be done for themselves.

Numerals

Objective **THE LEARNER WILL DEMONSTRATE ABILITY TO USE NUMBER AND NUMBERATION IN A MANNER COMPATIBLE WITH HIS/HER MENTAL MATURITY.**

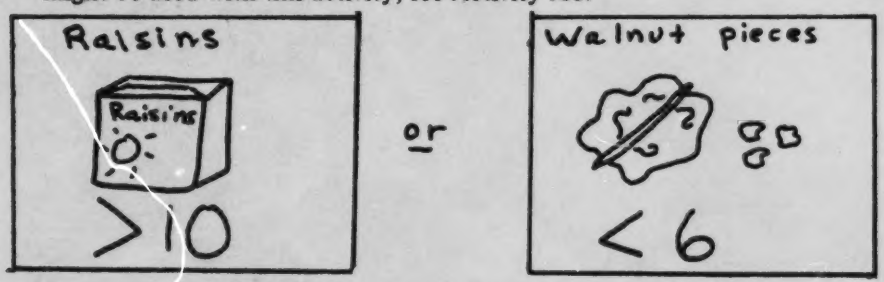
Activity M19 **Read How Many**

When children can read numerals or the printed names of numbers, modify picture-word recipe cards by leaving out the number-picture cue. (e.g., leave out the pictures of two tablespoons  on the cards below.



Activity M20 More Than, Less Than or Equal To

a. When using picture-word card recipes which require counting out a variable amount of an ingredient, modify the recipe card so children can choose how many they want to add. Limit the number they can choose by using a > or < symbol. For a list of sample recipes which might be used with this activity, see Activity M8.



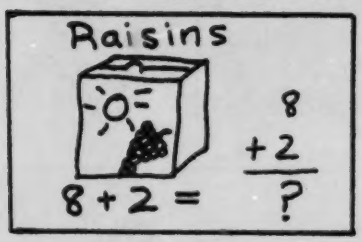
b. Set up a measuring game to find out how utensils relate to one another, e.g., 1/8 t. to 1 t. or 1/3 c. to ½ c. Let children experiment using measuring cups, measuring spoons, and flour or rice. Help them fill in a chart or recording sheet. This chart can later be displayed when children are doubling recipes, to help them use the most efficient measuring utensils.

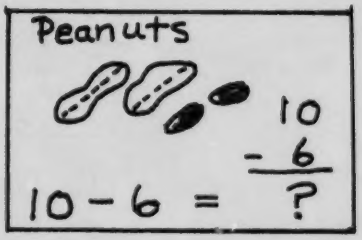
More Than, >			Less Than, <	or	Equal to =
¼ c	?	1/3 c	¼ c	<	1/3 c
1/3 c	?	½ c			
3 t.	?	1 T			
2/4 c	?	½ c			
1/8 t.	?	¼ t.			
½ t.	?	¼ t.			
1/3 c	?	3T			
etc.					

Objective **THE LEARNER WILL DEMONSTRATE ABILITY AND SKILL IN COMPUTATION COMMENSURATE WITH HIS/HER MENTAL ABILITY.**

Activity M21 **Adding or Subtracting**

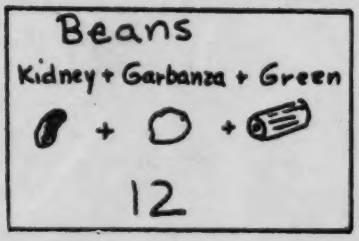
When children are learning which number combinations produce sums of different whole numbers, modify recipe cards so the amount of an ingredient is stated in a simple addition or subtraction problem.

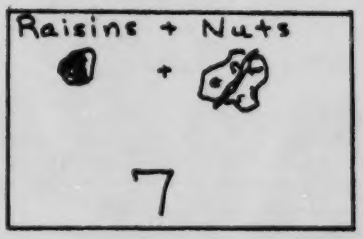




For sample recipes that might be used, which require the adding of numbers of ingredients, see Preschool-K Math section, Activity M8.

When using a recipe which calls for a combination of an assortment of ingredients, (e.g., raisins plus nuts) modify the recipe so the child can add up ingredients to equal a whole number stated on the recipe card.





Have the children record, on a chart, the number combinations they used.

? ☺ ?	Who Used Which Number Combinations?			
?	+	?	=	7
Raisins		Nuts		
4	+	3	=	7 Liza
2	+	5	=	7 Emma
1	+	6	=	7 Jimmy
6	+	1	=	7 Susie
6	+	1	=	7 Dave
0	+	7	=	7 Nicky

Sample recipes
Chi Tong, Egg Nog Variations, Fruit Shakes, Carrot Salad, Cole Slaw, Bean Salad, Granola Variations, Muffins with Fruits or Nuts added, Milk and Honey Bread Variations, Pizza, Sandwich Fun, Tempura, Peanut Butter variations, Cookies with fruit or nuts added, Raisin Carob Nuggets, Ice Cream Variations, Trail Mix.

Multiplication

Activity M22 Double a Recipe and Cook With a Friend

Some recipes that do not contain fractions can be easily doubled. Allow pairs of children to work together. Give them a copy of a recipe and ask them to double it by multiplying each amount of ingredient by two. When they have figured out the doubled recipe, let them cook together and share the result.

Sample recipes
Fruit Shake, Tomato Juice (uncooked), Purple Cloud, Vegetable Salad, Pumpkin Puffs*, Deviled egg, Buttermilk Biscuits, Crepes, French Toast, Tortillas, Cranberry Relish, Peanut Butter, Apple Oatmeal Cookie, Banana Cookies, Brown Sugar Cookies, Oatmeal Bon Bons.

*Change raisins and nuts from ½ T. to 5 raisins and 6 nuts.

Children can double a recipe which contains fractions by simply adding two of each required measures. Set up an area for doubling a recipe with a bowl of flour (or another easily measureable ingredient) and sets of measuring spoons and cups. Give children a copy of the recipe to be doubled and ask them to figure out which measure is equal to two smaller ones. For example, which measuring spoon would be equal to two ½ teaspoons. Children can experiment by using the flour to solve the problems, record their findings on a recording sheet or chart, and revise the recipe they are to make together.

2	X	½ t.	=	1 t.
2	X	¼ c.	=	½ c.
2	X	½ c.	=	1 c.

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Math

Grades 4-6

Objectives **THE LEARNER WILL DEMONSTRATE ABILITY TO DEAL WITH NUMBER AND NUMERATION IN A MANNER COMMENSURATE WITH HIS/HER MENTAL ABILITY**

THE LEARNER WILL EXHIBIT COMPETENCY IN IDENTIFYING AND USING STANDARD UNITS OF MEASURE COMMENSURATE WITH HIS/HER MENTAL MATURITY

Multiplication

Activity M23 **What Was the Family Recipe?**

Most single portion recipes were once larger recipes, which served more than just one person. They were modified to produce single portions. Have four children work in groups to convert a single portion recipe back into what the original recipe might have been. To do this, children would need to:

1. Convert fractions to larger fractions or wholes.
2. Convert smaller measures to larger ones.
3. Change times needed for cooking.
4. Compare their "family" recipe with a cookbook recipe.

Sample recipe

Meat Loaf Ingredient	Meat Loaf for 1		Meat Loaf for 4	for 8
Ground Meat	2 T.	x4=	½ c.	
Minced Onion	1/8 t.	x4=	½ t.	
Beaten egg	1 t.	x4=	4 t.	
Milk	1 t.	x4=	4 t.	
Tomato Sauce	1 T.	x4=	¼ c.	
Sage, Salt, Pepper	pinch	x4=	1/8 - ¼ t.	

Mix. Place in small loaf pan (oiled) and bake 350 for 30 minutes.

Children can either experiment to find out larger measurements or use a conversion chart. Have groups cook, using their recipe conversions and compare how their products turned out.

Division

Activity M24 **Making a New Single Portion Recipe**

Children can bring in a favorite family sized recipe from home, which they can convert to individual portion recipes. Try these out as new cooking activities, and make them into a new cookbook. Remind children to emphasize cooking foods that provide several nutrients and limited amounts of sugar and salt.

Activity M25 Is the Whole Meal Ready at the Same Time?

When cooking a complete meal, timing is important. Otherwise some foods become overcooked while others are not done. Have two children work together, each cooking a double recipe of a dish and have them figure out timing so they can eat both dishes at the same time. Allow them to cook the recipes twice so that first, they can note the exact time it takes to go through each cooking process. (One child can cook while the other child times the cooking with a stop watch). Then they can figure out when each needs to start his/her own cooking and see how closely they can finish.

For example, have the children make Applesauce Cupcakes and Lemonade for a snack. Applesauce Cupcakes require fifteen minutes in the oven, plus about three minutes to prepare. Lemonade requires only about five minutes to prepare. So the child making Applesauce Cupcakes would have to start the cooking at least thirteen minutes before the partner.

Have the children make up a menu for a meal. Discuss how *one* person could schedule the cooking of the meal so that everything would be ready on time. Make a chart which lists suggestions. A sample chart might be:

Menu*	How to Get the Meal Ready on Time
Barley Soup	1. Start soup first since it has to simmer 50 to 60 minutes.
Cloverleaf Rolls	2. Prepare rolls next. Let rise for 20 minutes.
Fruit Shake	3. Make Macaroni Salad and refrigerate.
Macaroni Salad	4. Cook rolls
	5. Make fruit shake
	6. Serve

*Sample recipes from *Cook and Learn*

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Metric

Activity M26 Converting to Metric

1. Children can figure out how to convert standard recipes to metric recipes by experimenting with sets of both metric and standard American or English measuring spoons and cups and an easily measurable ingredient. Have the children find out which measures are equal in each system. Make a chart showing what children discovered. Results can be checked by referring to a "Metric Conversions" chart.

Converting Standard Measurment to Metric

1 t	=	?	ml.	1 t	=	5 ml.
¼ t	=	?	ml.			
½ t	=	?	ml.			
1 T	=	?	ml.			
½ T	=	?	ml.			
1 c	=	?	ml.			
¼ c	=	?	ml.			
1/3 c	=	?	ml.			
½ c	=	?	ml.			

2. Using the above chart, children can convert recipes to the metric system. Give the children copies of the standard recipe they will be cooking. They can figure conversions and note them on their recipe. When setting up the cooking experience, provide metric measuring utensils. The teacher might provide several recipes which already use metric measurement. Children could use these before doing their own conversions.

Measurement

Activity M27 Cooking by Weights

In some countries, for example England, much of the measurement in cooking is done by using scales instead of measuring cups. Children can practice measuring by weight when cooking foods which contain easily weighed ingredients. Provide an easy to read metric scale for this activity.

Sample Recipes	Original Amount	Change To
Three Bear Porridge	3 T rolled oats	20 g rolled oats
Australian Oat Cakes	¼ c rolled oats	25 g rolled oats
Fondue	½ c grated Swiss cheese	70 g grated Swiss cheese
Cheese Pretzels	½ c flour	60 g flour
Tomato Catsup	1 ¼ lb tomatoes	.56 kg tomatoes
Apple Butter	1 lb apples	.45 kg apples

Have children compare measuring methods.

Activity M28 **Same Volume–Different Weight**

When working on weighing ingredients, find out if all equal cup measurements weigh the same? For example, does 1 cup flour weigh the same as 1 cup grated Swiss cheese? Weigh an assortment of ingredients: flour, dried beans, sugar, water, cheese. Graph results and try to list characteristics of heavier and lighter items. Children can set up an estimation game, in which one child chooses two items of equal volume, estimates which is heavier, and then checks his hypothesis on a scale.

Roman Numerals

Activity M29 **How Might Romans Have Written a Recipe?**

When children are practicing the use of Roman numerals, have them cook a recipe which has been modified to include Roman Numerals. For example the teacher might change the Bean Salad recipe in *Cook and Learn.*

Original Ingredient	to	Roman Numerals
8 cooked kidney beans		VIII cooked kidney beans
8 cooked garbanza beans		VIII cooked garbanza beans
15 cooked black beans		XV cooked black beans
5 pieces cooked string beans		V pieces cooked string beans

Decimals

Activity M30 **Decimal Recipes**

Children can practice using decimals when doing cooking activities. Modify recipe directions and mark measuring utensils to show decimals instead of fractions. Display a chart, which shows fraction and decimal equivalencies.

Fraction		Decimal
1/8	=	.125
¼	=	.25
1/3	=	.333
½	=	.5
2/3	=	.666
3/4	=	.75
1	=	1.0

Graphing

Objective **THE LEARNER WILL BE ABLE TO DEVELOP AND USE GRAPHS IN A MANNER COMMENSURATE WITH HIS/HER MENTAL MATURITY.**

Activity M31 **Plan To Eat a Variety of Foods To Get The Nutrients You Need.**

When discussing nutrient requirements, show children bar graphs which compare the nutrients in various foods according to the U.S. recommended daily allowances* (sample included). Discuss the foods displayed on each comparison card:

- Which foods are the best sources of different nutrients? Make a bar graph which compares several foods as nutrient sources. For example, show how much protein is supplied by milk, chicken, bread, carrots, and a banana. Which of these might you eat if you had already eaten protein–rich foods that day? If you had not yet eaten protein that day?

- How could you plan daily meals to include all the nutrients required for one day.

- Choose recipes which would help fulfill daily nutrient requirements for each of the eight nutrients on the graphs.

**Comparison Cards* (1975) No. B043 is available from the National Dairy Council, 6300 North River Road, Rosemont, Ill. 60018 at $5.50/set. Children can make their own comparison cards with information in:

a. *Comprehensive List of Foods* No. B082, also available from the National Dairy Council at 50 cents for the 12-page list.

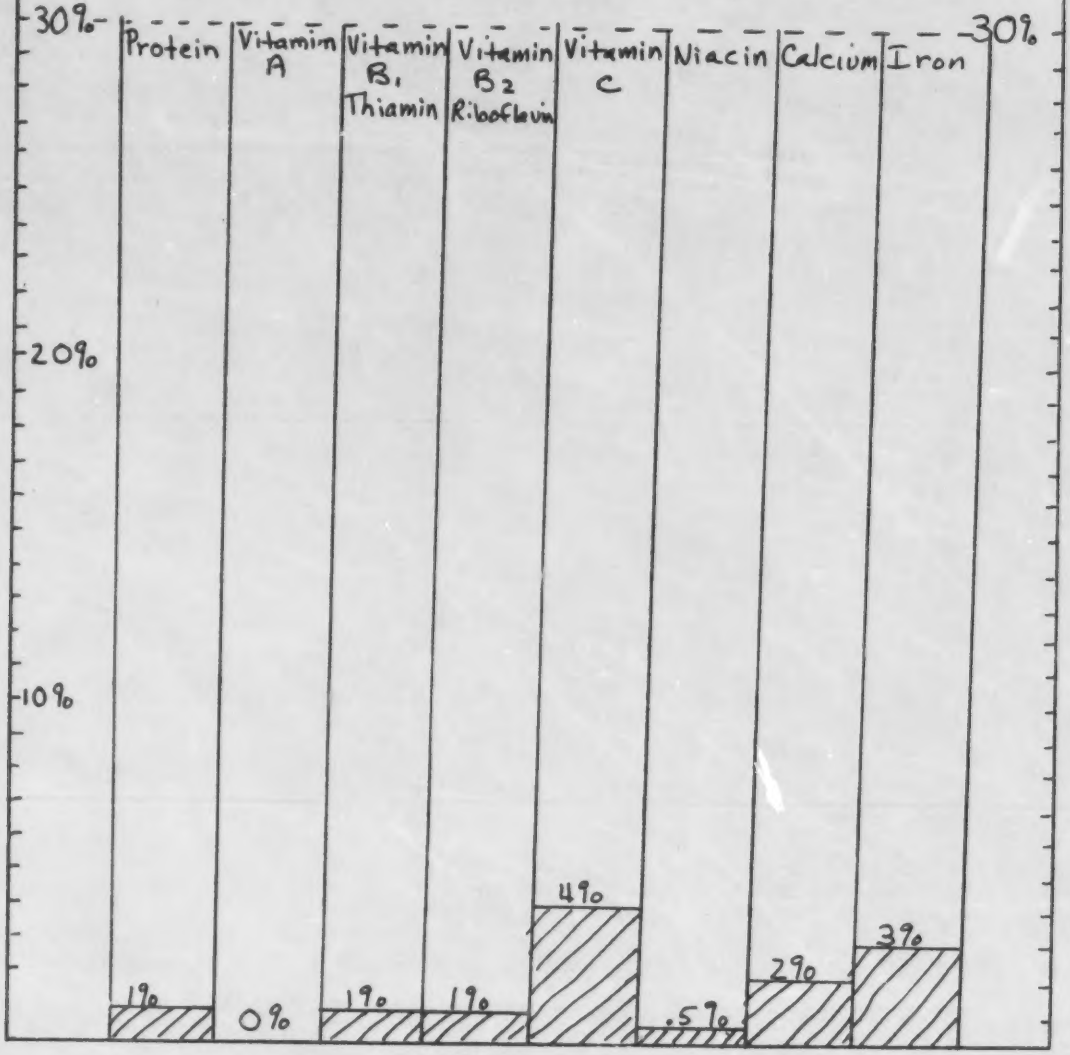
b. *Nutritive Value of American Foods In Common Units,* Adams, Catherine F. Agriculture Research Service, U.S. Department of Agriculture, Washington, D.C., 1975.

What Nutrients are in

Beets (food) — ½ cup cooked (amount)

32 calories

% of U.S. Recommended Daily Allowance



READING AND LANGUAGE

Reading and Language

Preschool-K

Oral Language

Objective **THE CHILD WILL BE ABLE TO ADEQUATELY EXPRESS HIMSELF ORALLY**

Activity R1 **Naming Game**

When preparing for a cooking experience or after the experience, have children name the utensils and ingredients they used. For this activity you can display the actual utensil or ingredient, and then give appropriate clues for each. Upon listening to the clue, the child can point to the proper thing and name it.

For example: Fruit Salad Naming Game

Display: knife, cutting board, bowl, spoon, apple, banana, pineapple slice, orange, walnut.

Clues:

knife - I am sharp and you cut with me.

board - I am made of wood, and you cut on me so the knife won't scratch the table.

bowl - You put ingredients into me.

spoon - You stir with me.

apple - I have a red skin and am round.

banana - I am long, with yellow peel.

pineapple - I am light yellow, and came in a can.

orange - I am round, with an orange peel.

walnut - I had a hard brown shell that was broken before I could be eaten.

When the child has become competent at naming from your clues, have him try making up his own clues for other children to guess.

Activity R2 **Explain the Recipe**

During or after a cooking experience, have the child explain what each card in the recipe tells him to do, using the cards as cues.

Activity R3 **Remember the Recipe**

After completing a cooking experience, have one child, or a small group of children remember and tell the process they went through to complete the recipe, without using picture-word cards as cues.

Objective THE CHILD WILL BE ABLE TO SEQUENCE SIMPLE STORY EVENTS

Activity R4 **How Did The Recipe Go?**

After finishing a cooking experience, show the children the recipe cards in jumbled order. The children can then arrange the recipe sequence in proper order, and talk about each step as they remember having done it.

Activity R5 **Tell and Do Game**

Set up a cooking experience as usual, except turn the picture-cards around so a child in back of the table can see the instructions, while the child doing the actual cooking can not. Children can then work in pairs—one cooking and one explaining what to do.

Objective **THE CHILD WILL BE ABLE TO DEMONSTRATE MEMORY THROUGH THE USE OF FINGERPLAYS AND SHORT POEMS**

Activity R6 **Fingerplays and Poems**

Fingerplays and poems which can be used with recipes are as follows:

Away up high in an apple tree
Two red apples smiled at me.
I shook that tree as hard as I could
Down came those apples and Umm!
They were good!

Here is a tree with its leaves so green
Here are the apples, that hang between
When the wind blows, the apples will fall
Here is a basket to gather them all.*

Sample Recipes
Apple Salad
Applesauce Muffins
Fruit Muffins
Apple Butter
Apple Oatmeal Cookies
Applesauce Cupcakes
Apple Gingerbread
Applesauce
Apple Fritters
Dried Apples

1. We are going to plant a bean
   Plant a bean, plant a bean
   We are going to plant a bean
   In our little green garden

Sing to "Mulberry Bush"
Sample Recipe
Bean Salad

2. First we plant it in the dirt, etc.
3. Then the little bean will grow, etc.
4. Then the summer sun will shine, etc.
5. Then the cool wet rain will come, etc.

6. Then we'll pick the little beans
   Little beans, little beans
   Then we'll pick the little beans
   and put them in our salad.*

Ten fat hot dogs, sitting in a pan
One went Pop, and another went Bang
Eight fat hot dogs, etc.*

Sample Recipes
Macaroni Salad
Frankfurter Pancake
Sandwich Fun

O do you know the Muffin Man
The Muffin Man, the Muffin Man
O do you know the Muffin Man
Who lives in Drury Lane
O yes, I know the Muffin Man, etc.

Sample Recipes
Bran Muffins
English Muffins
Corn Meal Muffins
Fruit Muffins

Slice, Slice the bread looks nice
Spread Spread the butter on the bread
On the top put honey so sweet
Now it's nice for us to eat.*

Sample Recipes
Milk and Honey Bread
Butter

Mix a pancake
Stir a pancake
Pop it in the pan
Fry the pancake
Turn the pancake
Eat it if you can.*

Sample Recipes
Wheatberry Pancakes
Crepes
Potato Latkes
Cottage Cheese Pancake
Norwegian Pancakes

Five little peas in a pea-pod pressed
One grew, two grew, and so did all the rest
They grew and grew and did not stop
Until one day the pod went *Pop!**

Sample Recipes
Chi Tong
Vegetable Salad

Old Tom Tomato, Like a red ball
Basked in the sunshine by the garden wall
Along came *name* with his mouth open wide
And old Tom Tomato popped inside
Down down down, down the red lane
We won't see old Tom Tomato again
But *name* chuckled and said, "Ha Ha!"
I like red tomatoes - please give me some more*

Sample Recipes
Vegetable Salad
Tomato Juice
Pizza
Tortillas
Meat Loaf
Catsup

What do you suppose
A bee sat on my nose
Then what do you think
He gave a great big wink,
And said, "I beg you pardon
I thought you were the garden!"*

Here is the beehive
Where are the bees?
Hiding away where nobody sees
They are coming out now
They are all alive
One, two, three, four, five.*

Sample Recipes
Apricot Shake
Honey French Dressing
Granola
Milk and Honey Bread
Coeur a la creme
Sourdough Twists
Brownies
Peanut Butter Frosting

*Fingerplays, some with alteration from *Games for the Very Young*, Elizabeth Matterson, American Heritage Press, New York, 1969.

I had a little peach pit
lemon seed
orange seed
apple seed
pear seed
And put it in the ground
And when next year I went to look
A little shoot I found
The shoot grew upwards day by day
And soon became a tree
I picked the round pink peaches
yellow lemons
bright oranges
rosy apples
yellow pears
And ate them—all for me.*

Sample Recipes
Lemon - Lemonade, Bunelos
Orange - Fruit Shake, Orange Muffins
Apple - Apple Salad, Apple Butter
Pear - Fruit Salad Variation
Peach - Peach Fritters

Visual Discrimination

Objective **THE CHILD WILL BE ABLE TO RECOGNIZE HIS/HER OWN NAME IN PRINT**

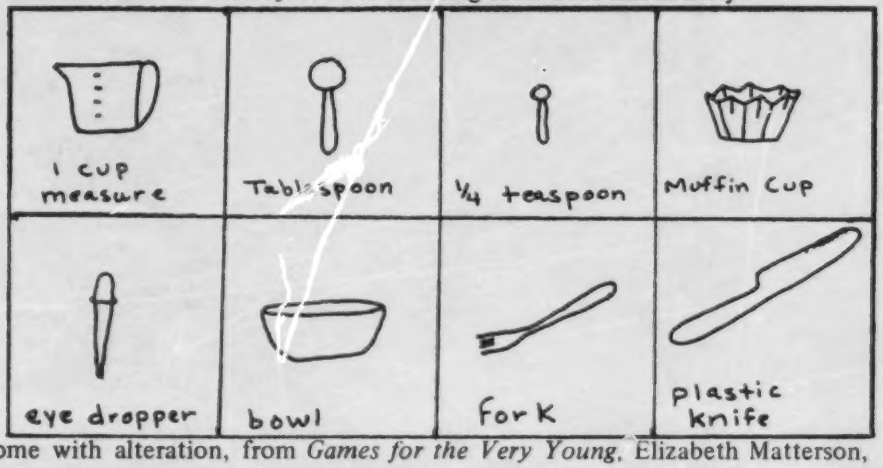
Activity R7 **Which Is Yours?**

During cooking experiences always label each child's own product. Names can be written on muffin cups, silver foil, tags on toothpicks, cups, etc., so that each child can find his/her own product and eat it.

Objective **THE CHILD WILL DEMONSTRATE VISUAL DISCRIMINATION OF OBJECTS**

Activity R8 **Seeing With Your Hands**

Prepare several feelie-bags or boxes with food or cooking utensils inside. Provide pictures of each enclosed item. The child will feel each object and match the proper picture to the unseen object. Have the child describe the characteristics of the object he is touching as he does this activity.



*Fingerplays, some with alteration, from *Games for the Very Young*, Elizabeth Matterson, American Heritage Press, New York, 1969.

Activity R9 **Sorting**

Set up a table or area with cooking and eating utensils and a variety of ingredients. Have the children sort them according to use, color, shape, food or non-food. Discuss why each item was placed as it was.

Directionality

Objective **THE CHILD WILL FOLLOW LEFT TO RIGHT DIRECTIONALITY**

Activity R10 **Left to Right**

Always set up recipes from left to right, and emphasize the left to right sequence of recipe cards as the children do the cooking activity, since they will need the ability to follow from left to right in learning to read.

Phonics

Objective **THE CHILD WILL RECOGNIZE THE SOUNDS AND SYMBOLS OF CONSONANTS**

Activity R11 **Foods Whose Names Begin With Initial Consonants**

When working on phonics, select a recipe that begins with the initial consonant you are teaching. Emphasize that consonant sound when discussing the recipe.

Sample Recipes

B - Berry Crush
Buttermilk Biscuits

C - Carrot Salad
Custard

D - Deviled Egg
Date Teem Gok

F - Fondue
Falafel

G - Gingerbread
Granola

H - Hot Rice Salad
Hummus Bi Tahina

J - Jello
Jewish Blintzes

K - Ketchup

L - Lemonade
Lettuce Roll-Ups

M - Mayonnaise
Macaroni Salad

N - Navajo Fry Bread

P - Purple Cloud
Pumpkin Puffs
Peanut Butter

R - Rieska
Raisin Carob Cookies

S - Sesame Biscuits
Soy Burgers

T - Tomato Juice
Tortillas

V - Vegetable Salad
Vegetable Patties

W - Whole Wheat Waffle
Won-Ton Shrimp

Y - Yogurt Shakes
Yogurt

Z - Zucchini Crepes
Zucchini Muffins

Objective **THE CHILD WILL BE ABLE TO LISTEN TO AND COMPREHEND STORIES AND BOOKS AT HIS/HER OWN DEVELOPMENTAL LEVEL**

Activity R12 **Stories About Foods**

The following books can be used with cooking experiences, and are appropriate for use with preschool and kindergarten children.

Books About Fruits

Aldridge, Josephine and Richard. *Reasons and Raisins,* Parnassau Press, Berkeley, CA, 1972. Little Fox takes a box of raisins through a day's adventure. The raisins finally end up in raisin pudding, for dessert.

Aliki. *The Story of Johnny Appleseed,* Prentice, 1963. Johnny Appleseed plants seeds which grow into trees.

Barrett, Judi. *An Apple A Day,* Atheneum, New York, 1973. A boy hides his apples instead of eating them. They get turned into applesauce, and he gets pears from then on.

Careme, Maurice. *Mother Raspberry,* Thomas Y. Crowell Company, New York, 1969. Raspberries are harvested, made into jam, and provide winter food for many hungry animal friends.

Gage, Wilson. *Squash Pie.* Greenwillow Books, 1976. The squash from the garden are constantly being stolen so no squash pie can be made. Lots of different fruit pies are made, but no one is happy until the squash is successfully harvested and baked into a pie.

Kepes, Juliet. *The Seed That Peacock Planted,* Little Brown and Co., Boston, 1967. Many fruits grow on one magic tree.

McCloskey, Robert. *Blueberries for Sal,* Viking Press, 1948. People and bears both enjoy a blueberry harvest.

Mari, Iela and Enzo. *The Apple and the Moth,* Pantheon, 1969. Life Cycles of the apple and the moth are dependent on each other.

Rudolph, Marguerita. *I Like a Whole One,* McGraw-Hill, New York, 1968. Arthur only likes to eat whole apples, pears, and bananas.

Thayer, Jane. *The Blueberry Pie Elf,* Morrow, 1961. Many different pies are made before the elf gets the type he wants.

Thomas, Ulrich. *Applemouse,* Wing and Wang, 1972. A mouse makes an apple into his home until he eats all of it.

Tresselt, Alvin. *Autumn Harvest,* Lothrop, 1966. Apples, pears, pumpkins, corn, and grains are harvested.

Wahl, Jan. *The Mulberry Tree,* Norton, 1970. A big tree grows from a tiny seed.

Zolotow, Charlotte. *Mr. Rabbit and the Lovely Present,* Harper, 1962. Apples, pears, and grapes make a wonderful gift for mothers.

Books About Vegetables

Barrett, Judith. *Old MacDonald Had An Apartment House,* Atheneum, New York, 1971. A farm in an apartment house provides food for a grocery store.

Bryan, Bill. *Jack and the Beanstalk,* Scott Foresman and Co., Glenview, Ill., 1967. Traditional tale about a magic beanstalk.

Cranbury, Helen, and Tolstoy, Alexei. *The Great Big Enormous Turnip,* Watts, 1968. Co-operative effort is needed to harvest a huge turnip.

Credle, Ellis. *Down Down the Mountain,* Nelson, 1967. Children bring turnips to market.

Domanska, Janiana. *The Turnip,* Macmillian Company, London, 1969. Co-operative effort is used to harvest a huge turnip.

Donovan, John. *The Little Orange Book,* William Morrow and Co., New York, 1961. Rabbits eat carrots and grass to get fat.

Gage, Wilson. *Squash Pie,* Greenwillow Books, 1976. Squash seeds are planted, plants grow, and squash is harvested to make pie.

Ginsburg, Mirra. *Mushrooms in the Rain,* Macmillan, New York, 1974. A mushroom grows bigger and bigger to provide shelter for animals in the rain.

Ipcar, Dahlov. *Hard Scrabble Harvest,* Doubleday, Garden City, New York, 1976. A farmer protects his crops so they can grow to be harvested.

Krauss, Ruth. *The Carrot Seed,* Harper, 1945. A tiny seed grows into a huge carrot.

Lionni, Leo. *The Biggest House in the World,* Pantheon, 1968. A snail lives on and eats a cabbage plant while growing too large to move when the cabbage is gone.

Lobel, Anita. *Potatoes, Potatoes,* Harper, 1967. Growing potatoes wins over fighting wars.

Potter, Beatrix. *The Tale of Peter Rabbit,* Warne. Peter raids a farmer's garden and almost gets caught.

Rees, Ennis. *Potato Talk,* Pantheon, 1969. Whimsical verse about a potato who talks.

Selsam, Millicent. *More Potatoes,* Harper and Row, 1972. Potatoes from farm to table.

Wahl, Jan. *Cabbage Moon,* Holt, 1965. A princess saves the cabbage moon from being turned into a salad.

Watson, Aldren. *My Garden Grows,* Viking Press, New York, 1962. A child explains his garden in great detail.

Books About Eggs

Briggs, Barbara. *The Biggest Whitest Egg,* Golden Gate Junior Books, 1966. Huge eggs hatch into small geese.

Coontz, Otto. *The Quiet House,* Little Brown, Boston, 1978. Three eggs turn into companions for a loney dog.

Seuss, Dr. *Green Eggs and Ham,* Random House, New York, 1960. It turns out that green eggs and ham taste good, after all.

Sherman, Nancy. *Gwendolyn The Miracle Hen,* Golden, 1961. A hen lays decorated eggs.

Books About Grains or Seeds

Adoff, Arnold. *MA nDA LA,* Harper, New York, 1971. African corn planting, growth, and harvest.

Ipcar, Dahlov. *Hard Scrabble Harvest,* Doubleday, 1976. A farmer protects his crops so they can be harvested.

Tresselt, Alvin. *Autumn Harvest,* Lothrop, 1966. Corn, grain and other foods are harvested.

Udry, Janice May. *The Sunflower Garden,* Harvey House, 1969. An Indian girl grows sunflowers for their seeds.

Book About Fish

Elkin, Benjamin. *Six Foolish Fishermen,* E. M. Hale, Eau Claire, Wisconsin, 1962. A small boy solves foolish fishermen's problem and gets fish as a reward.

Books About Baking

Brown, Marcia. *The Bun,* Harcourt, New York, 1972. A Russian version of The Gingerbread Boy.

Carle, Eric. *Walter the Baker.* Knopf, New York, 1972. One day, a baker makes the first pretzel.

de Paola, Tomie. *Watch Out For the Chicken Feet in Your Soup.* Prentice-Hall, Englewood Cliffs, N.J., 1974. Joey and his friend Eugene visit Joey's grandmother. They eat a big lunch and then Eugene gets to help make bread dolls.

Galdone, Paul. *The Gingerbread Boy.* Seabury Press, New York, 1975. Traditional tale about gingerbread boy who runs away to avoid being eaten.

Galdone, Paul. *The Little Red Hen.* Scholastic Book Services, New York, 1973. No one helps the little red hen do the work when she bakes a cake, so she eats the whole cake all by herself.

Sendak, Maurice. *In the Night Kitchen.* Harper, 1970. A little boy dreams about bread being baked overnight by some funny bakers.

Books About Pancakes

Carle, Eric. *Pancakes Pancakes.* Knopf, 1970. Pancakes are made from raw ingredients.

Janice. *Little Bear's Pancake Party.* Lothrop, 1960. Little Bear learns that he must follow a recipe if he wants pancakes.

Sawyer, Ruth. *Journey Cake Ho.* Viking, 1967. A pancake rolls away to avoid being eaten.

Book About Making Butter

Lindman, Maj. *Snipp, Snapp, Snurr and the Buttered Bread.* Whitman, 1943. Milk must be gotten from a cow before butter can be churned.

Books About Honey

Berenstain, Stanley and Janice. *The Big Honey Hunt.* Random House, New York, 1962. Father Bear decides to show his son how to find honey.

McCall, Edith. *Butternut Bill and the Bee Tree.* Benefic Press, Chicago, 1965. Butternut Bill outsmarts a bear when they both want honey from a bee hive in the same tree.

Milne, A. A. *Winnie the Pooh,* Dutton, 1954. Tales of a bear, who loves honey, and his friends.

Books About Soup

Kessler, Leonard. *Soup for the King.* Grosset and Dunlap, N.Y., 1969. The king holds a contest to replace his soup cook.

Sendak, Maurice. *Chicken Soup With Rice.* Harper and Row, N.Y., 1962. Poems about the months, including a month in which it is nice to eat chicken soup with rice.

Reading and Language

Grades 1-3

Comprehension

Objective **THE LEARNER WILL IDENTIFY CAUSE AND EFFECT RELATIONSHIPS.**

Activity R13 **What Happened and Why?**

After finishing a cooking experience, make a cause-effect chart relating to the steps in the completed recipe. This might best be done with small groups of children. Question the children as they recall the recipe sequence to help them identify causes and their effect.

For example: **Brown Rice Burgers**

Teacher: What was the first step in this recipe?
Child: We put two tablespoons of cooked brown rice into our bowls.
Teacher: How was the cooked brown rice different from the uncooked brown rice?
Child: The grains were bigger and stuck together more.
Teacher: Then what did you do?
Child: We added grated carrot.
Teacher: Did that make a change?
Child: The color become orange and tan. The taste got better.

The Cause and Effect Chart-Brown Rice Burgers

CAUSES	EFFECTS
Put in cooked brown rice.	
Add grated carrot.	Color changed. Texture was soft and crispy.
Add onion.	Textured changed a little. Smell of onion added.
Add parsley.	A little green color.
Add salt and pepper.	Smell changed.
Add whole wheat flour.	Powdery texture.
Add egg.	Wetter.
Mix.	All ingredients get jumbled.
Bake.	Gets hot. Onions and carrots get softer. Gets crispy on outside. Tastes combine.

Phonics

Objective **THE LEARNER WILL UNDERSTAND AND USE CONSONANT LETTERS AND CONSONANT CLUSTERS.**

Activity R14 **Cook foods whose names begin with consonant blends.**

Foods can be cooked when children are learning the sounds associated with initial consonant blends.

Sample Recipes

Br - Bran Muffins, Brownies

Bl - Blintzes, Blueberry Fritters

Cr - Crepes

Cl - Cloverleaf Rolls

Ch - Cheese Custard, Chapatis, Cheese Wafers

Dr - Dressings (For Salads)

Fr - Fruit Salad, Framed Egg French Toast

Gr - Granola

Sh - Shakes & Yogurt, etc.)

Pr - Prune Whip

Sw - Swiss Birchermuesli

St - Stuffed Celery

Tr - Trail Mix

Th - Three Bear Porridge

Wh - Whole Wheat English Muffin

Alphabetizing

Objective **THE LEARNER WILL LEARN THE SKILL OF ALPHABETIZING.**

Activity R15 **The Recipe Box**

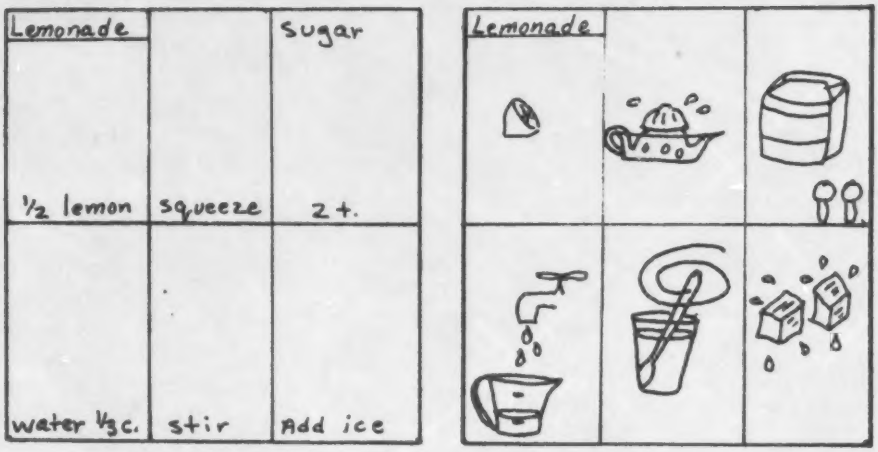
Provide a recipe box with copies of recipes, in jumbled order, which children have cooked. Explain that it is easier to look up a recipe if all the recipes are alphabetized. Let children put the recipes into proper order. With less able children, include only a few recipes, and increase the difficulty as children become more adept at the task. Give an alphabet as reference, if needed.

Book Parts

Objective **THE LEARNER WILL USE BOOK PARTS.**

Activity R16 **Make Your Own Cook Book**

Each time children complete a cooking activity using picture-word recipes, have them fill in words or pictures on partially blank copies of the recipes they have made.



Fill in the pictures or Fill in the words.

When about eight recipes have been accumulated, have children make a cookbook, using the recipes. They can include a title page, table of contents, index, and glossary. Bring in a selection of commercially printed cookbooks to show where these book parts are located, and discuss the information contained in each part. What is the function of each book part? How does it help us in getting information easily?

Title Page:
Allow children to choose their own names for their cookbooks. Include the author, the place of publication, and the date. Children can make up a publishing company's name, too, if they wish.

Table of Contents:
The table of contents might be organized in several ways: by food groups, meal component, nutrients provided, or simply in the order that they were cooked. Help children decide how they want to arrange this section. (Remind children to make sure their cook book pages correspond with table of contents listings) For example, By food group:

	Sample Recipes	Page
Meat and Meat Substitutes	Meat Loaf	1
	Peanut Butter Chop	2
Dairy Products	Homemade Butter	3
	Pumpkin Custard	4
Fruits and Vegetables	Fruit Salad	5
	Lemonade	6
	Vegetable Patties	7
Cereals and Grains	Granola	8
	Milk and Honey Bread	9
Glossary		10
Index		11

By Meal Component

	Sample Recipes	Page
Beverages	Lemonade	1
Salads	Fruit Salad	2
Cereals	Granola	3
Breads	Milk and Honey Bread	4
Vegetable Dishes	Vegetable Patties	5
Main Dishes	Meat Loaf	6
	Peanut Butter Chops	7
Spreads	Butter	8
Desserts	Pumpkin Custard	9
Glossary		10
Index		11

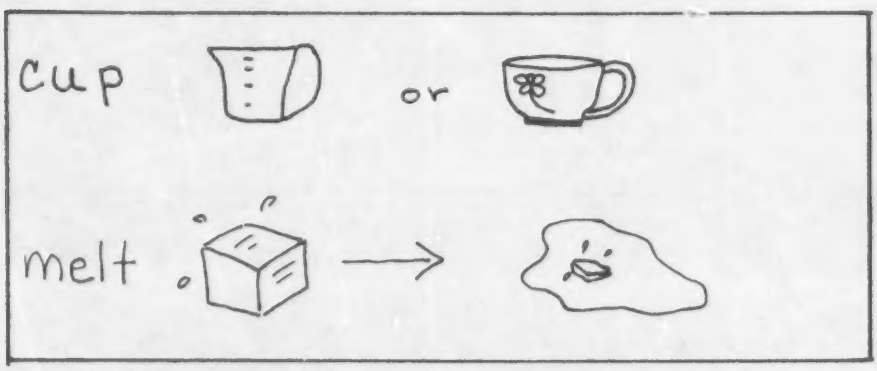
Glossary:
Have children choose some key words they used in cooking, which might need to be defined. Look up the words in a dictionary and choose the correct definition, or have the children make up personal definitions based on their own experience. This activity would work towards the objective: the learner will use the dictionary. Some words which might be included are:

1) Process words e.g., stir, knead, bake, melt, etc.

2) Utensil words e.g., cup, teaspoon, tablespoon, etc.

3) Ingredient words e.g., egg, celery, honey, etc.

In many cases, a definition might include a picture:



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Index:
Help the children decide what needs to be in their index. The index could simply be an alphabetical list of recipes or could be more complicated and include ingredients used in recipes. The teacher might print up the list of indexed items and have the children look up and fill in the correct page numbers where the items are found in their book.

Banana, pp. 1,4. Cereal, p. 6.

Fruit Salad, p. 1. Honey, p. 8.

Grammar

Objective **THE LEARNER WILL BE ABLE TO WRITE A COMPLETE SENTENCE.**

Activity R17 **Change some picture recipes into written recipes.**

Using picture recipes which children have completed, show children how to make sentences to represent each picture-word sequence card. Some words they will use are already on the cards. Help them with spelling other words they wish to use by writing them on word cards which they store in personal word boxes, in personal dictionaries, or on a word wall or chart. Then if they need to use the same word again, they can look it up. Arrange the recipe cards on a bulletin board. Have children write or dictate their own sentences onto strips of paper, and display them under the proper recipe cards.

When the children have become familiar with sentences that represent recipe steps, let them play these games:

1) Jumble the sentence strips and have children replace them on the bulletin board in proper order.

2) Children can try to put jumbled sentence strips into proper sequence without using recipe picture cards as clues.

3) Have children play the "Tell and Do Game" (R5) using only the verbal recipes read from the sentences as guides.

Reading and Language

Grades 4-6

Creative Writing

Objective **THE LEARNER WILL BE ABLE TO WRITE FOR ANY IDENTIFIED AUDIENCE**

Activity R18 **Writing Recipes for Different People**

Picture-word recipes are aimed primarily towards people who have not yet developed full reading skills. The same recipes may be written differently for other audiences. Have children choose a recipe and write it for:

a. Someone with cooking experience, who can not read.
b. Someone with no cooking experience, who can read.

Discuss: Which recipe needs to be longer – a or b? Why? What basic terms need definition in either case? What safety precautions need to be noted in the recipe for the person who has never cooked before? Does the use of pictures make explanation easier? How were abbreviations used in each case? How do typical cookbooks teach readers about cooking skills?

Objective **THE LEARNER WILL BE ABLE TO SELECT AN APPROPRIATE FORM FOR WRITING AND TO WRITE IN ANY IDENTIFIED FORM (e.g., NARRATIVE DESCRIPTIONS, LETTERS, REPORTS, STORIES, POEMS).**

Activity R19 **Recipes in Different Contexts**

Recipes are found within many written forms other than cookbooks. They are included in letters, advertisements, magazine or newspaper articles, biographies, history books, some fiction, in gardening books, and even on kitchen dish towels. Provide examples of recipes found within some of these written forms, and discuss how each form is like or unlike the other.

After completing a cooking activity, children can write about their experience in any form they select.

For example, a child might write a newspaper article.

"Lemonade Quenches Children's Thirst"

The children in Room 102 were hit by a terrible thirst yesterday, at 1:45 p.m., as they returned to their desks after being outside in record temperatures for this time of year. As they came in, the children signed up on a waiting list to make ice cold lemonade. Children quickly took turns squeezing ½ lemon into a cup, adding two teaspoons of sugar, and 1/3 cup water. They stirred the mixture, added two ice cubes, and returned to their seats to drink. When asked what she thought of this activity, a bystander, Emma C. of room 101 said, "I have never seen such concentration and order in an activity! That lemonade must have been just the right thing for a hot day!"

Activity R20 Write About Nutrients

Using books suggested in the Books List for grades 4-6, children can research the Super Six nutrients and write information papers about them to share with the class. They can include food sources of each nutrient, how the nutrient helps the body, and special interest topics dealing with the nutrient. Interest topics might include descriptions of scientific nutrient-related discoveries, how one nutrient works with another, or suggested menus which are high in that nutrient. These papers could be put together and used as a guide to a nutrient-based approach to eating.

SCIENCE

Science

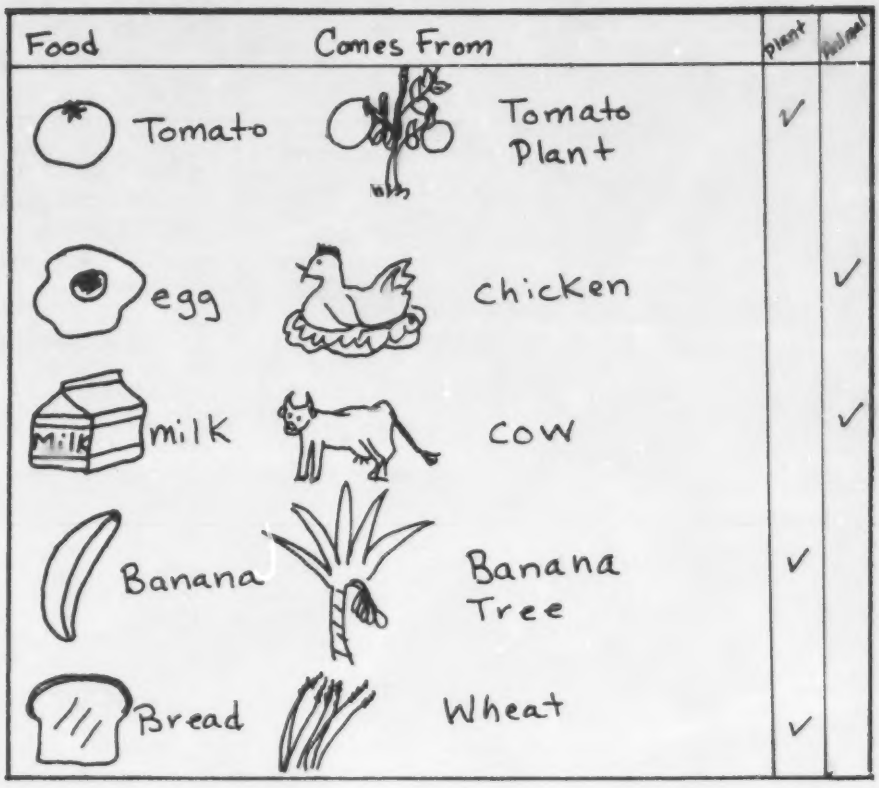
Preschool-K

Living Things

Objective **THE CHILD WILL UNDERSTAND THAT THERE ARE MANY KINDS OF LIVING THINGS.**

Activity S1 **Foods We Eat Come From Living Things**

Have the children find or draw pictures of some things we eat. Put them on a large mural chart. Discuss with the children the living source of each food. Help them decide whether the source was a plant or animal. In the case of foods which are made up of many ingredients, use the ingredient which predominates. For example, use wheat as a source of bread.

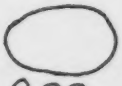
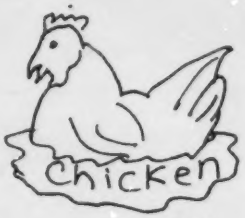
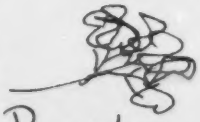


Activity S2 **What Living Things Did The Ingredients Come From?**

After doing a recipe, make a chart with the children, listing all the ingredients. Help the children find out and list the living source of each ingredient. If at all possible, take field trips to see sources, or use books, films, or pictures to show source. If the ingredient is from a plant, try growing that plant in the classroom.

sample chart

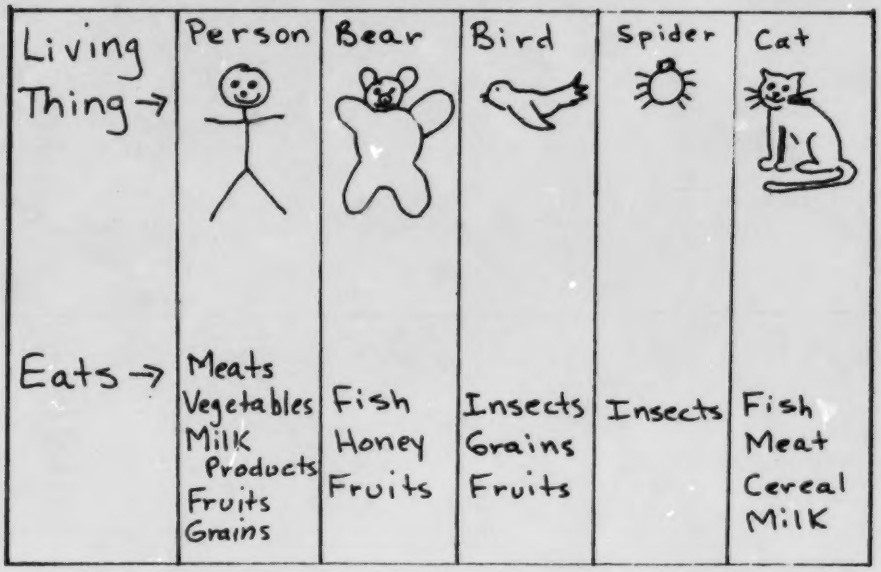
Potato Latkes
(sample recipe)

Ingredients	Where From	
Potato	Potato Plant	--- let a potato sprout eyes
	Wheat Plants	-- sprout wheatberries look at different parts of wheat
 egg		--- visit chicken farm and hatchery
 Parsley	parsley plant	--- grow parsley
Onion	Onion plant	--- grow an onion indoors
	non-living source	
	Pepper Plant Seeds	--- grind fresh pepper plant some pepper seeds

Objective THE CHILD WILL UNDERSTAND THAT LIVING THINGS EXHIBIT BASIC SIMILARITIES AND DIFFERENCES.

Activity S3 **All Living Things Must Eat**

On an experience chart, have children list an assortment of familiar things. Help them include people, animals, birds, insects, and plants. Make a large chart with pictures of the living things they listed. You might include pictures produced by the children. Next to each living thing, show what each eats. Explain to the children that *all* living things must eat to grow and live.

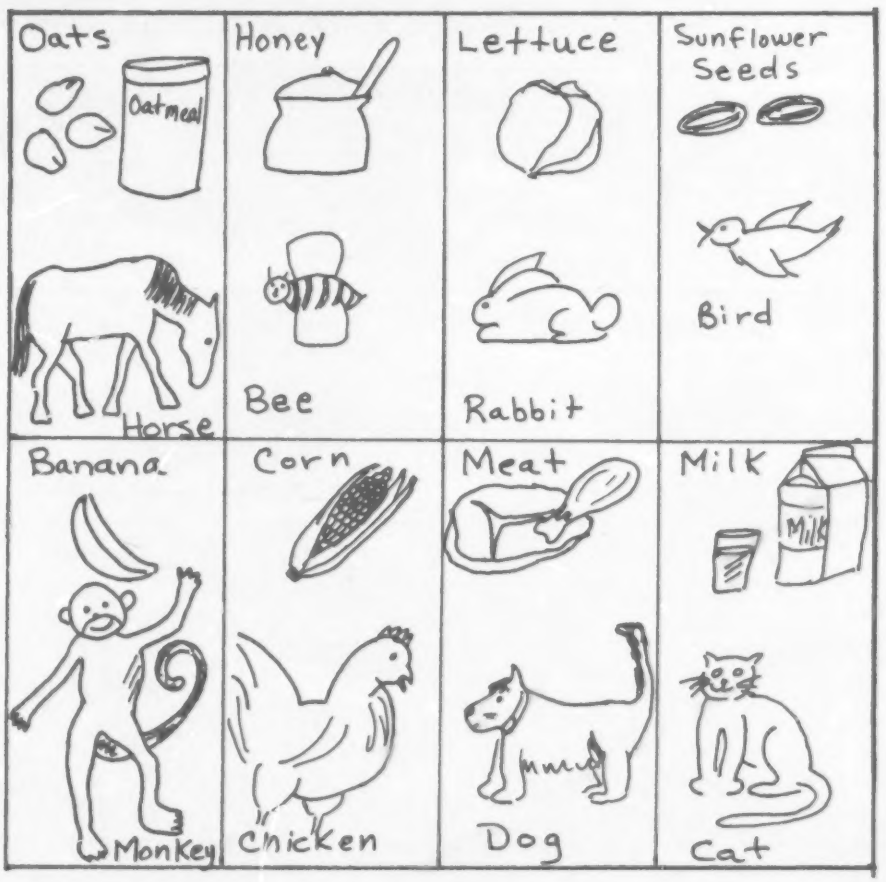


Activity S4 **Who Eats What We Eat?**

After the children have used a raw ingredient in a cooking experience, help them put that ingredient into a labeled space on a chart. Have them look at pictures of animals and decide which one eats that ingredient. Look at books, take trips to farms or pet stores, put up a bird feeder, or have some of these animals visit the classroom to help the children find out who eats which things.

Sample Recipes
Oats - Oatmeal Bon Bons
Honey - Custard
Lettuce - Lettuce Roll Ups
Sunflower Seeds - Sandwich Fun
Bananas - Banana Cookies
Corn - Corn Fritters
Meat - Meat Loaf
Milk - Egg Nog

WHO EATS WHAT WE EAT



Activity S5 **Water Is In Many Things We Drink and Eat.**

When discussing that all living things need the nutrient, water, explain that many foods we eat or drink contain water, even if we cannot see the water in them. You can show this in several ways:

a. Make beverages which need to have water added to them. Have children add water to the following, taste, and then use them in cooking.

Add water to:	Sample Recipes
Milk (dry or evaporated)	Egg Nog, Custard
Apple Juice (frozen concentrate)	Apple Butter
Chicken Broth (canned concentrate or bouillion)	Chi Tong (Chicken Soup), Barley Soup, Boiled Won Tons
Beef Broth (canned concentrate or bouillion)	Vegetable Soup
Orange Juice (frozen concentrate)	Fruit Shake
Grape Juice (frozen concentrate)	Purple Cloud

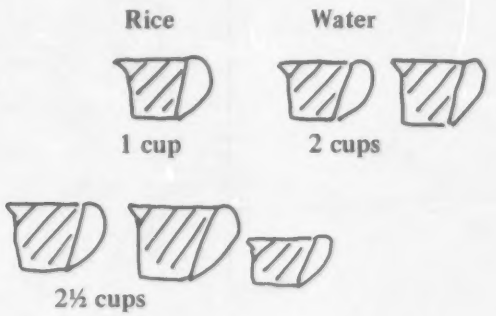
b. Many foods we eat are dried so they can be stored easily. When they are dry they are hard and not very good to eat. Cooking or soaking these foods in water puts water back into the foods so they become soft and easy to eat. Children can examine and talk about rice and beans. Then they can help cook or soak them in water, taste and talk about them, and use them in cooking.

Sample Recipes

Rice: Hot Rice Salad
Rice-Nut Steak
Brown Rice Burgers
Brown Rice Pudding
Vegetable Soup

Kidney Beans: Bean Salad

Save out some uncooked rice and unsoaked beans. Have children compare the dried foods with their counterparts. Ask which is bigger. Ask where the water went that the beans soaked in or the rice cooked in. When cooking rice, have children measure and chart with pictures how much rice and water was put in the pan. Measure again. What happened?



c. Many recipes children cook, use water as an ingredient. When children cook some of these they can talk about the effect the water had on other ingredients and how cooking or mixing changed the water.

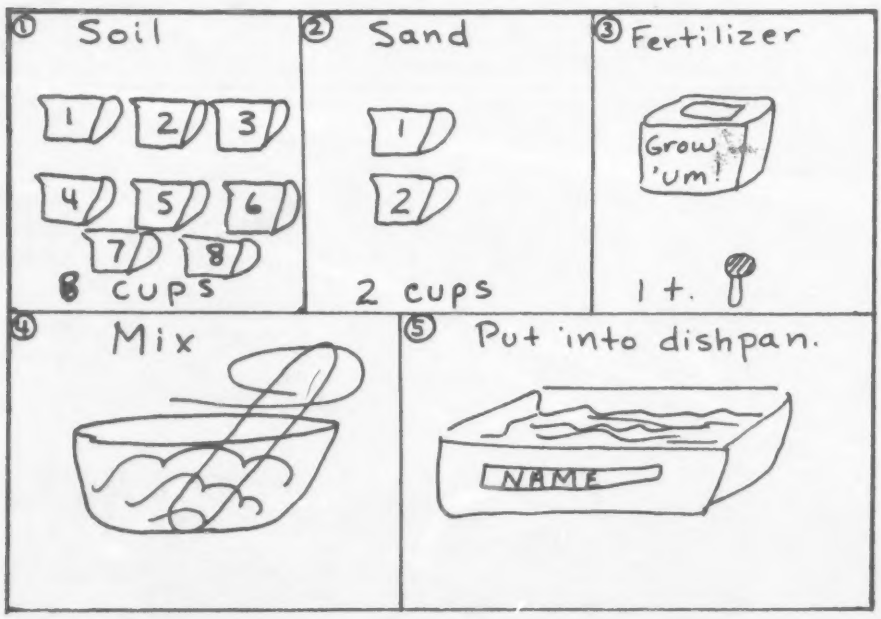
Sample Recipes

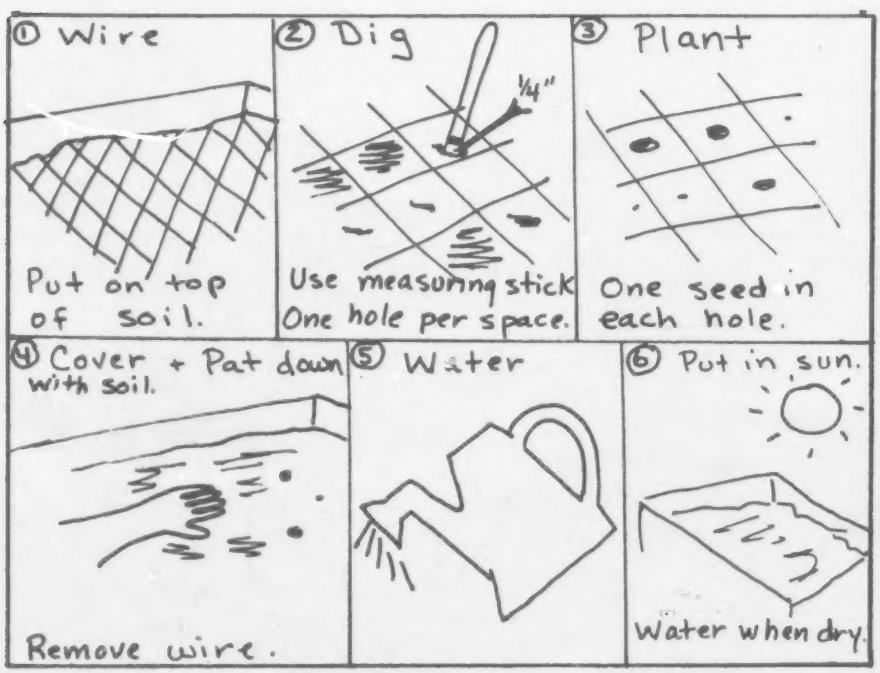
Lemonade
Three Bear Porridge
Cloverleaf Rolls
Tempura
Oatmeal Cupcakes
Applesauce (cooked)
Crepes
Whole Wheat Waffle
Cheese Pretzels
Gingerbread People

Objective THE LEARNER WILL UNDERSTAND THAT LIVING THINGS GROW, DEVELOP, REPRODUCE, AND DIE.

Activity S6 **Outdoor Dishpan Gardens.**

In spring, divide large water-tight containers into 1 square foot spaces, or use a dishpan for each child. Each child can grow lettuce, radishes, and green peas that can be harvested before school ends. Use a picture-word recipe for mixing soil and later for planting the seeds.



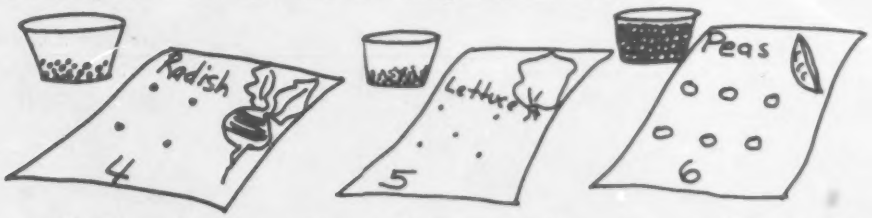


For planting seeds, these things make it easier:

1. One inch chicken wire cut to fit on top of dirt in each dishpan. Children put only one seed in each hole, so seeds won't be too crowded.

2. A tongue depresser or coffee stirrer marked at ¼ inch. The child makes holes in the dirt only as deep as the mark, using the stick as a digging tool and measure.

3. Set up seeds with pictures of what each will grow into, and provide a counting card to tell the child how many seeds he can take.



4. A planting recipe for children to follow which can be reproduced in chart form so children can refer to each step of the planting process as it is done.

Follow progress by making charts, books, and art projects about the garden.

Sample Recipes

Radishes can be used in salads. Add to
Macaroni Salad
Vegetable Salad

Lettuce can be used in:
Vegetable Salad
Lettuce Roll Ups
Egg Salad

Peas can be used in:
Chi Tong
Vegetable Salad

Activity S7 **Tomatoes To Grow**

Plant "Pixie" tomatoes in a sunny window. They are special tomatoes which will mature inside. When ripe, they can be used in cooking.

Sample Recipes

Tomato Catsup
Tacos
Vegetable Salad
Tomato Juice

When doing indoor or outdoor gardening discuss the life stages the plants are going through. Make books, pictures, and charts showing the stages the plants go through. Also, name the parts of each plant as they appear, and decide which part the child will eat.

Activity S8 **What Part Do We Eat?**

After learning about life cycles and parts of plants, children can have tasting parties and cook recipes using the below listed foods. When they are very familiar with them, help them decide 1) at which life stage is each plant eaten, and 2) which part of the plant do we eat.

Seeds we eat:	**Sample Recipes**
Sunflower	Granola, Three Bear Porridge
Rice	Rice-Nut Steak
Sprouts we eat:	
Mung Bean	Egg Foo Yung
Alfalfa	Asian Salad
Stems we eat:	
Celery	Stuffed Celery
Parsley	Tempura, Cole Slaw
Leaves we eat:	
Cabbage	Cole Slaw
Lettuce	Lettuce Roll Ups, Vegetable Salad
Roots we eat:	
Potatoes	Potato Latkes
Carrots	Carrot Salad
Flowers we eat:	
Cauliflower	Tempura
Broccoli	Boiled Won Tons
Seed Pods we eat:	
Green Beans	Bean Salad
Snow Peas	Chi Tong
Fruits we eat:	
Apples	Apple Salad
Oranges	Asian Salad

Classification

Objective **THE CHILD WILL UNDERSTAND THAT ALL OBJECTS CAN BE CLASSIFIED BY THEIR PROPERTIES.**

Activity S9 **Which Is It?**

Set up a table with ten fruits and vegetables on it. Have one child describe a food and another guess which one he is talking about. Foods you might include are: 1) apple, 2) banana, 3) spinach, 4) orange, 5) strawberry, 6) carrot, 7) cauliflower, 8) broccoli, 9) lemon, 10) zucchini. Children will be familiar with the names of these foods if they have cooked recipes that contain them.

Sample Recipes
apple – Apple Butter
banana – Banana Cookies
spinach – Boiled Won Tons
orange – Fruit Salad
strawberry –Fruit Shake
carrot – Carrot Cupcakes
cauliflower – Tempura
broccoli – Boiled Won Tons
lemon – Lemonade
zuchinni – Zucchini Fritters

Matching

Activity S10 **Which Spice Is In What You Cooked?**

Have children cook a recipe containing a spice they can easily smell. Before they eat what they have made, let them play this game:

Set up three spice smelling jars; one with the spice they used in cooking and two with very different smelling spices. Let them try to find which spice they used in cooking by smelling the three jars. Discuss how we can use our sense of smell to identify some things. Make a list of other things we can identify by their smell.

Sample Recipes
Ginger is in: Gingerbread
Oregano is in: Hot Rice Salad
Onion is in: Potato Latkes
Mint is in: Tabbouli
Garlic is in: Falafel
Sage is in: Meatloaf

Activity S11 **Shake and Listen.**

Make sound boxes or cans which make different sounds. 35mm camera film cans or sealed frozen juice containers are good to use. Have children match same sounding cans to each other or have them match cans to real ingredients or pictures of the ingredients. Use things in the cans which they have used in their cooking experiences. Try flour, rice, peanuts, salt.

Activity S12 **Which Is Heavier?**

Set up an area with a balance scale, small identical jars with lids, e.g., baby food jars, and bowls of several different ingredients. Have children fill two jars with the same ingredient, level them off so they are even, put on the lids to avoid spillage, and put the jars on each side of the scale. Help them express verbally that the same amounts of an ingredient weigh an equal amount. Have children measure a different ingredient on each side of the scale to find out that same amounts of different things may or may not weigh the same. Try weighing sugar, flour, rice, dried peas, lentils, beans, or salt.

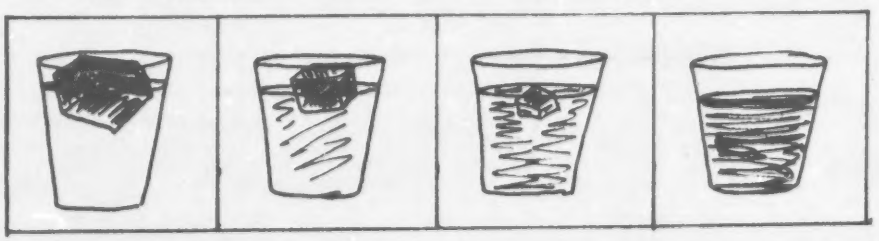
Chemistry

Objective **THE LEARNER WILL UNDERSTAND THAT MATTER EXISTS IN THREE STATES; SOLIDS, LIQUIDS, AND GASES.**

Activity S13 **From Liquid To Solids; From Solids To Liquids.**

a. Make ice cream. Observe and comment on the freezing of the ice cream and the melting of the ice. Try putting an easily read thermometer into the ice or ice cream. Help children see when the liquid in the thermometer goes up or down.

b. Make lemonade with colored ice cubes. Help children sequence pictures of what happened to the ice cubes as they melted in the lemonade.



c. Make lemonade popsicles*
Make fruit shakes*
Make apricot froth*
Discuss the changes that happen as these freeze or melt.

d. After making the recipes* listed in "a" through "c", help the children make a chart showing liquids and solids

Liquids (Soft)	**Solids (Hard)**
Lemonade	Popsicle
Cream	Ice Cream
Water	Ice Cube

***Sample Recipes** are from *Cook and Learn.*

Science

Grades 1-3

Objective **THE LEARNER WILL UNDERSTAND THAT LIVING THINGS GROW, DEVELOP, REPRODUCE, AND DIE.**

Activity S14 **Nutrients Help Living Things to Grow.**

Explain to children that it is the nutrients in foods which help us grow. If we eat foods which contain fewer nutrients than we need everyday, then we will not grow as well as we might. Food in the five basic food groups, contain the essential nutrients our bodies need, but we limit foods in the fifth group which are high in calories. Demonstrate the concept of nutrients aiding growth with the following activity:

Have the children pot some plants or seeds in regular potting soil. Give all plants equal water and light. Feed half of the plants "plant foods." Have the children compare the sizes of the two groups of plants by measuring each plant every week and plotting growth on a graph. Explain that both groups of plants get food from the soil. The group which eats "plant food" is getting extra nutrients, so that group grows bigger and stronger. People grow best when they eat foods which provide the proper amount of nutrients.

Objective **THE LEARNER WILL UNDERSTAND THAT LIVING THINGS EXIST IN A STATE OF INTERDEPENDENCE.**

Activity S15 **Food Chain Game**

The foods people eat are links in food chains. When learning about food chains, the teacher can help children do research to find out what part the ingredients they use in recipes play in food chains. For example:

Sample Recipe
Cottage Cheese Pancakes
Egg

Egg → Person eats egg → Grows Corn → Chicken eats corn → Lays Egg

Cottage Cheese and Milk

Cottage Cheese → Eaten by person → Grows Hay and corn → Cow eats hay and corn → Produces Milk → Cottage Cheese is made of milk.

Oil

Oil → Used by Person → Grows Corn → Corn made into oil.

Flour

Flour → Eaten by Person → Grows Wheat → Flour is ground from wheat.

These food chains can be as simple or complex as children's abilities allow. Food chains can be displayed using real items plus pictures, or just pictures.

Have children draw each link of a food chain onto a card, shuffle, and then have a friend put the cards into proper order.

Activity S16 **Plants - The First Foods**

When discussing that plants are the primary source of all food for all animals, help the children make a chart showing non-plant foods they have cooked or eaten. Trace the role that plants play in the production of these foods. Refer to food chains the children have previously made, or to reference books.

Food	Comes From		Plant
Hamburger (Meat Loaf)	Steer	(who eats)	Grass, Grain
Turkey (Turkey Burger)	Turkey	(who eats)	Grain
Cheese (Cheese Pretzel)	Cow	(who eats)	Hay, Grass Grain,
Egg (Crepes)	Chicken	(who eats)	Corn
Lamb (Armenian Meat Tart)	Lamb	(who eats)	Grass, Hay

Activity S17 **Take a Short-Cut to Protein**

Discuss with the children that we eat animal foods, mainly to eat protein. But we can also eat some special plant foods to get proteins that we need. When we eat plants like soybeans, dried beans, and some grains, instead of animal foods, we are able to skip steps in the production of food, so the protein is cheaper and less wasteful of resources. Some recipes which provide meat substitute protein are: Falafel, Soyburgers, Peanut Butter Chops, Brown Rice Burgers, Rice-Nut Steak. Meeting protein needs through plant sources depends on how the sources are combined. For more information refer to *Nutrition Concepts and Controversies** or *Nutrition Education Supplement to Textbooks**.

Chemistry

Objective **THE LEARNER WILL UNDERSTAND THAT ALL MATTER TAKES UP SPACE AND HAS WEIGHT.**

Activity S18 **What Shape Will the Liquid Be?**

When children are learning that liquids take on the shape of their container, they can see this happen when unmolding popsicles made from fruit juice. Provide an assortment of differently shaped containers in which children can freeze their popsicles. Almost any shape will work, as long as the popsicle can be pulled out smoothly. Allow children to choose the container they wish to use. Hollow "shapes" blocks which young children stack or match, different sized paper cups, measuring cups, muffin tins, etc., can be used. Children can help find their own container. (Make sure all containers are thoroughly washed.)

**Nutrition Concepts and Controversies,* Hamilton, E.M.N. and Whitney, E.N. West Publishing Co., N.Y., 1979.

**Nutrition Education Supplement to Textbooks,* Division of Child Nutrition, N.C. Department of Public Instruction, Raleigh, N.C., 1980.

Point out that a liquid will take on the shape of its container, and when frozen or solidified in another way, will hold that shape even when unmolded. Make a graph showing who used which shapes.

We Made Differently Shaped Popicles

Mark	Susan	Susie	Sarah	Edward
Elizabeth	Bob	Nicky	Liza	Evelyn
Emma	Alan	Jinsy	Karen	Jim

Star Cube Cylinder Triangle Cup

Help the children make a list of other liquids which can solidify and be unmolded to show a shape. Ask what made the particular liquid solidify.

Some liquids, when they solidify, take on the shape of their container.

1. Sandcandles
2. Gelatin
3. Tofu
4. Cake Batter
5. Ice Cubes
6. Grape Jelly
7. Frozen Cooked Pumpkin
8. Bran Muffin Dough
9. Pashka*
10. Custard

***Sample Recipe**

Physics

Objective **THE LEARNER WILL UNDERSTAND THAT ENERGY INTERACTS WITH MATTER TO PRODUCE CHANGES.**

Activity S19 **What Changes Does Heating Cause?**

When discussing changes that energy can produce in matter, cook several recipes in which heat produces a change. Help the children note the changes and try to discover a variety of effects heat has on different kinds of foods (matter). Make a chart to show what the children learned.

Heat Causes Different Changes in Matter

Food (Matter)	Type of Heat (Energy)	Changes
Popcorn	Electric Popcorn Popper or Hot Plate	Corn explodes. Gets bigger, softer, white.
Vermicelli in Chi Tong*	Very Hot Chicken Broth	Noodles get thicker, softer.
Tomatoes in Tomato Juice*	Hot Plate	Tomatoes get soft and turn into thick liquid.
Swiss Pancake*	Griddle	Liquid turns to solid, color gets darker, crispy.

Milk and Honey Bread*	Oven	Puffs up, dries out, gets brown and crisp on top.
Framed Egg*	Frying Pan or Hot Plate	White gets hard and edge gets crisp. Yolk gets more solid.
Silver Wrapped Chicken*	Oven	Chicken got whiter and drier and more tender.
Apple Slices	Foor Dehydrator* or Sun	Dries out, color changes, shrinks, tastes stronger.

***Sample Recipes** are from *Cook and Learn*

Other forms of energy also cause changes. Cook and discuss the changes which the following forms of energy cause in the following recipes:

Beating or Blending

Sample Recipes
Egg Nog, Fruit Shake, Uncooked Tomato Juice, Yogurt Shakes, Purple Cloud, Whipped Cream in Prune Whip. Egg Whites can also be beaten to observe a change caused by energy. Point out that the beating process added air to the mixture.

Grinding

Sample Recipes
Carrot Salad, Wheatberry Pancakes, Falafel, Meatloaf

Shaking

Sample Recipe
Butter

Kneading

Sample Recipes
Cheese Pretzels, Buttermilk Biscuits, Cloverleaf Rolls

Cooling or Freezing

Sample Recipes
Graham Cracker Apple Pie, Pashka, Ice Cream.

Energy for the preceding activities comes from different sources. Discuss where each type of energy originates.

Problem Solving

Objective **THE LEARNER WILL DEMONSTRATE THE ABILITY TO FORMULATE HYPOTHESES.**

Activity S20 **What Will Happen?**

Some ingredients used in cooking cause chemical reactions to take place, which change other ingredients. Some of these "changer" ingredients include baking soda, baking powder, or yeast. Plan a cooking activity which uses one of these ingredients. When introducing the recipe, call that ingredient to the special attention of the children. Let them look, taste (if they wish), and smell to become familiar with it. Discuss the changes that ingredient will create in the cooking process.

After the children have completed the cooking activity, have them inspect their products to note the changes the ingredient caused. For example, did their product get bigger or does it have any holes in it? How do these "changer" ingredients work? Add some experiments from a science unit here, e.g., baking soda and vinegar "explosion" or grow yeast and see it split under the microscope. (Science experiments can be found in the Books List, Grades 4-6, Foods and Science).

Science

Grades 4-6

Problem Solving

Objective **THE LEARNER WILL UNDERSTAND THAT SCIENCE IS A WAY OF FINDING OUT THROUGH OBSERVATION AND EXPERIMENTATION.**

Activity S21 **Science Experiments with Foods**

Many foods can be used in science experiments. (See Books List, Foods and Science, Grades 4-6). When doing some of the experiments described, cook recipes which contain the foods used in the science activity. For example, when experimenting with:

Food	Sample Recipes
Eggs	Deviled Egg, Egg Foo Yung, Framed Egg, Custard
Lemons	Lemonade, Hot Rice Salad, Bunuelos, Applesauce
Ice	Lemonade, Fruit Shake, Ice Cream
Salt	Cheese Pretzels
Milk	Egg Nog, Yogurt, Fondue

Chemistry

Objective **THE LEARNER WILL UNDERSTAND THAT MATTER EXISTS IN THREE STATES: LIQUIDS, SOLIDS, GASES**

Activity S22

A necessity of life to all animals, including people, is water. We fulfill our need for water not only through drinking plain water, but by eating or drinking many other foods. To show that water is hidden in many foods we eat, experiment to release water stored in a variety of foods. Try squeezing or pressing oranges, tomatoes, meat, cucumbers, etc., to release some juice. This can be purified by heating the juice and catching the evaporating vapor on a plate or pan lid. Allow children to taste the condensed liquid to verify whether or not it is water. Discuss:

a. How do different foods acquire the water in them?
b. Are there any foods which do not contain water?
c. Are there any plants or animals which do not require water to live?
d. How do people in unusual circumstances handle their need for water (e.g., people who live on the desert, back-packers, Eskimos, etc.)?

History of Science

Objective **THE LEARNER WILL UNDERSTAND THAT SCIENTIFIC DISCOVERIES HELP US LIVE BETTER LIVES**

Activity S23 **Science and Health**

Scientists have improved people's lives by making discoveries about how vitamins can prevent some diseases. The stories about these discoveries are interesting and exciting. Children can research to find out how scientists found cures for diseases like beriberi and scurvy. (See Books List: Foods and Health, Grades 4-6). Make charts to show: 1) Which nutrient deficiencies contribute to specific diseases, 2) What foods can be eaten that contain these nutrients to prevent disease.

For this information, the teacher can see *Nutrition Concepts and Controversies*, Hamilton, E.M.N., and Whitney, E.N. West Publishing Co., New York, 1979.

SOCIAL STUDIES

Social Studies

Preschool-K

History

Objective **THE LEARNER WILL KNOW COMMONLY ACCEPTED SYMBOLS AND OBSERVANCES OF THE AMERICAN HERITAGE.**

Activity SS1 **Holiday Recipes**

Sample Recipes

New Years
Egg Nog

Valentine's Day
Gingergread People
Cut out hearts instead of men.
Egg Yolk Paint
Coeur a la Creme

Halloween
Pumpkin Puffs
Pumpkin Bread
Halloween Punch
Pumpkin Cookies
Pumpkin Gingerbread
Cottage Cheese Pudding
Pumpkin Pudding
Trail Mix

Easter
Deviled Egg
Egg Salad
Carrot Cookies
Carrot Cupcakes
Pashka (Russian Easter Dessert)
Living Easter Basket

Thanksgiving
Cornmeal Muffins
Turkey Burgers
Corn Fritters
Alaskan Cranberry Relish
Apple Butter

Christmas
Christmas Stocking Cookies
Egg Yolk Paint and Ideas for decorating holiday cookies
Gingerbread People

Since we live in a multi-cultural society, it is important for children to know not only about their own holidays, but about the holidays of others. For additional information see *Maximizing Learning from Cooking Experiences* and *Nutrition Education Supplement to Textbooks* (Division of Child Nutrition, N.C. Department of Public Instruction, Raleigh, NC, 1980).

Economics

Objective **THE LEARNER WILL KNOW THAT ALL FAMILIES PRODUCE AND CONSUME GOODS AND SERVICES.**

Activity SS2 **Buy It or Make It.**

When discussing community helpers related to food, take a field trip to a supermarket. Point out that we often buy things that are cooked for us by other people. Look for ketchup, apple butter, yogurt, butter, ice cream, salad dressings, tomato juice, cranberry sauce, mayonnaise, Granola, cottage cheese, cream cheese, bread, peanut butter, cookies, and apple sauce. You can buy some of these foods, for the children to taste.

Cook some of the foods you saw at the supermarket:

ketchup	ice cream
apple butter	tomato juice
yogurt	salad dressings
butter	mayonnaise
Granola	cottage cheese
cream cheese	bread
peanut butter	oatmeal cookies
apple sauce	cranberry sauce

Compare the foods the children cooked to those that had been purchased. Make a graph showing who liked which foods more.

Who Liked Bought Applesauce	Who Liked Home-made Applesauce?
6	6 Alan
5	5 Bob
4 Dave	4 Jimmy
3 Susie	3 Virginia
2 Susan	2 Liza
1 Karen	1 Emma

Discuss the reasons why people might buy foods instead of cooking them at home (or why they might cook at home instead of buying them). List these reasons on an experience chart. Discuss the differences between the foods on an experience chart or in a story.

Activity SS3 **Some Foods are Plants**

Make field trips to farms, orchards, or gardens to meet people who produce foods that are sold in supermarkets. Cook some recipes that use the foods you saw being produced.

Activity SS4 **Different Ways to Bake**

Visit a bakery to see how the products which bakers sell are cooked. Then cook some of those same things in the classroom. Discuss how the cooking processes were the same or different. Some recipes you might see being made are:

Sample Recipes
Oatmeal Cookies
Gingerbread Men
Milk and Honey Bread
Cloverleaf Rolls

Activity SS5 **Different Pizzas**

Visit a pizza parlor where the children can watch pizza being made. Let them taste it, if possible. Later, let the children make their own pizza. You might also let them try frozen pizza. Then discuss the difference between making commercial and home-made pizzas. Find out how they were the same or different to eat.

Objective **THE LEARNER WILL KNOW THE EFFECTS OF CLIMATE ON HOW PEOPLE LIVE.**

Activity SS6 **What's the Weather; What Shall We Cook?**

Discuss different foods people eat during different seasons of the year, and why they choose to eat them at those times. On a warm day, give the children two choices of recipes they can cook. Make a chart to see who cooked which recipes. Try again on a cold day. (It might be more effective to let them make the choice while actually outdoors).

Sample Recipes

Choices for Warm Days		**Choices for Cold Days**
Fruit Shake	or	Chi Tong (chicken soup)
Vegetable Salad	or	Vegetable Patties
Apple Salad	or	Cooked Apple Sauce
Swiss Birchermuesli	or	Three Bear Porridge
Macaroni Salad	or	Hot Rice Salad
Prune Whip	or	Apple Fritters

Social Studies

Grades 1-3

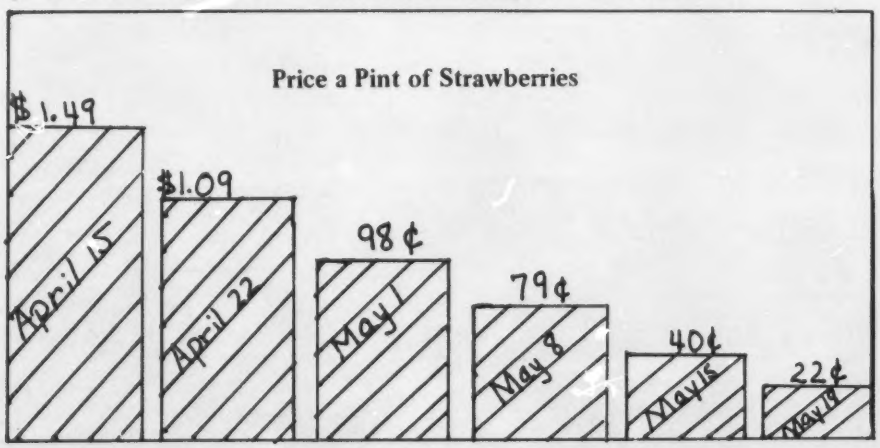
Economics

Objective **THE LEARNER WILL KNOW THAT UNLIMITED WANTS AND LIMITED RESOURCES CREATE SCARCITY. (ECONOMICS)**

Activity SS7 **How Much Do Fresh Strawberries Cost?**
(This activity might best be done with 3rd or 4th graders.)

Fresh strawberry prices fluctuate greatly during the strawberry season. In the beginning of the season, when demand is high and the supply is limited because strawberries need to be shipped from warm areas to many places, the North Carolina price is high. As locally grown strawberries ripen and become more plentiful, prices drop. Demand may also lessen as people tire of eating fresh strawberries. When strawberries are available from local growers, and they aren't being purchased fast enough to prevent spoilage, prices are at their lowest.

At the beginning of strawberry season explain in understandable terms that the class will be discovering the effect that supply and demand has on the cost of fresh strawberries. Help the children design a chart which shows the price level change of fresh strawberries throughout the season.



They can note prices when shopping with parents, friends, or relatives. Have them try to find out where early strawberries come from. They can ask the produce manager of the supermarket during shopping or when on a field trip. Discuss why prices might be high early in the season, using the supply/demand idea.

Bring in some fresh strawberries and leave them in the refrigerator a few days. Let the children observe how quickly strawberries spoil. Discuss how this might affect prices. For example, older strawberries might be very inexpensive while very fresh ones would not be. When strawberries are ripe locally, visit a "Pick Your Own Strawberries Farm". Children can note the

price of strawberries and pick some to use in later cooking activities. Discuss why strawberries can be sold for less than at a supermarket at this type of farm.

Sample Recipes

Fruit Shake, Citrus Lemonade, Berry Crush, Fruit Salad, Coeur a'la Creme, Topping on a Whole Wheat Waffle, Ice Cream.

Geography

Objective **THE LEARNER WILL KNOW THE EFFECTS OF CLIMATE ON HOW PEOPLE LIVE. THE LEARNER WILL USE MAPS AND GLOBES.**

Activity SS8 **Which Fruits Grow Best Where We Live?**

Climate often limits the foods people can produce locally. This is especially important in the growing of fruit trees and berries, an important source of nutrients–vitamins, water, and carbohydrates. Using seed or plant catalogs* as reference books, children can discover which fruit trees and berries can be grown near their homes. They can compare their climate in North Carolina with that of a northern state (i.e., Maine) and a southern state (i.e., Florida) to see how climate can affect food production.

Provide "hardiness zone" maps for children to look at. These are usually found in seed catalogs. Help children locate their own state and the approximate location of their own town.

Tell children to remember or write down the hardiness zone number of their state or town. Explain that the coldest areas are the more northern areas with the lowest numbers. As areas become warmer and more southern, the numbers get higher. If comparisons are going to be made using colder and warmer states, look up their zone numbers too.

Next children can make a chart which lists fruits and berries they have eaten. The children can look these up in the seed catalogs to find out in which zones they grow best. The teacher might highlight or underline the information children need to find and then help children make decisions about where the plants grow best.

* Send for seed or plant catalogs. They are usually free. Try:
- Burgess Seed and Plant Co., Galesburg, MI 49053
- W. Atlee Burpee Co., Warminster, PA 18974
- George W. Park Seed Co., Greenwood, SC 29646
- Stokes Seeds, Inc., Box 548, Buffalo, NY 14240

		Does It Grow Best in . . .		
Fruit	Zone	North Carolina	Maine	Florida
Apple	5-8	Yes	Warmer areas	No
Peach	5-8	Yes	Warmer areas	No
Cherry	5-7	Cooler areas	Warmer areas	No
Pear	5-7	Cooler areas	Warmer areas	No
Apricot	5-8	Yes	Warmer areas	No
Fig	6-10	Yes	No	Yes
Persimmon	7-9	Yes	No	Cooler areas
Strawberry	4-8	Yes	Warmer areas	No
Tioga Strawberries	9-10	No	No	Yes
Blueberry	4-8	Yes	Warmer areas	No
Rabbit Eye Blueberry	8-9	Warmer areas	No	Cooler areas
Blackberry	5-8	Yes	Warmer areas	No
Grapes	5-8	Warmer areas	Warmer areas	Yes

After the chart has been made, discuss it in small groups. Find out:

a. Who has seen any of these fruits or berries grown near their home?

b. Who has tasted each of these fruits or berries?

c. We often eat these fruits fresh. What are some other ways we eat these fruits?

d. Sometimes we eat these fruits frozen, dried, or canned. Why do we eat them this way?

e. How are we able to buy fresh fruit when they are not growing in our area, or are not "in season?" (Define "in season" for children.)

f. Some fruits are shipped to us. What forms of transportation are used?

Fruits and berries which children research can be used in cooking activities.

Sample Recipes

Apple	Apple Salad, Apple Butter, Baked Half Apple
Peach	Egg Nog Variation, Fruit Muffin
Cherry	Fruit Muffin, Ice Cream
Pear	Fruit Salad Variation, Fruit Muffin
Apricot	Apricot Froth, Fruit Muffin, Pashka, Trail Mix
Fig	Granola Variation
Persimmon	Fruit Muffin
Strawberry	Berry Crush, Coeur a' la Creme
Blueberry	Fruit Muffins, Blueberry Cobbler
Blackberry	Berry Crush, add to Ice Cream
Grape	Purple Cloud, Apple Salad Variation

History

Objective **THE LEARNER WILL KNOW COMMONLY ACCEPTED SYMBOLS AND OBSERVANCES OF THE AMERICAN HERITAGE.**

Activity SS9 **Thanksgiving Foods** (see SS1)

In preparation for Thanksgiving, and while studying Indians and the Pilgrims, discuss foods often eaten at Thanksgiving dinner. Make a chart listing these foods. Explain that some of the foods listed are traditional ones which pilgrims and their Indian friends ate at America's first harvest celebration—the first Thanksgiving. Many of the traditional foods were native to North America, and introduced to the settlers by American Indians.

Corn. Corn was a staple food to many Native Americans (American Indians). It is said that some Atlantic Coast tribes taught the pilgrims to fertilize corn plants by burying fish in the corn rows.

1. Take a field trip to an unharvested corn field, so children can see how it is grown.

   Note that the part of the corn which we eat is the seed of the corn plant. Sprout some corn kernels to show that corn seed will germinate into corn plants.

2. Use corn husks to make corn dolls (an Appalachian mountain tradition).

3. Make pop-corn.

4. Cook the following recipes which use corn in different forms: corn fritters, corn meal muffins, tortillas.

5. When using corn meal, have children make their own by grinding corn kernels in a flour mill.

Pumpkin. Pumpkin is a squash native to America which stores well in a cool, dry place throughout the winter.

1. Visit a pumpkin patch, or review experience charts or stories by children about their Halloween pumpkin patch field trip.

2. Use fresh pumpkin, frozen pumpkin which was saved from Halloween, or canned pumpkin to make Sample Recipes: Pumpkin Puffs, Pumpkin Bread, Pumpkin Gingerbread, or Pumpkin Custard.

3. Winter squashes were important to early settlers because they stored well. Have children find out how the settlers stored other foods for the winter and write books about what they learned.

Cranberry. Cranberries come from small wild evergreen bushes, native to eastern and northeastern North America. The bushes grow in bogs and are often near the coast.

1. At snack time, try cranberry juice. Make an experience chart in which children describe cranberry juice and compare it to more familiar drinks.

Cranberry Juice

Liza says: Cranberry juice is red.
Emma says: It tastes sweet and sour, and bitter all at the same time.
Jimmy says: It's not as sweet as apple juice, but sweeter than the coffee my mom drinks.

2. Cook cranberry fruit muffins and Alaskan Cranberry Relish (sample recipes).

3. Remind children that cranberries can be used to string as a decoration for the Christmas tree in a month's time.

Turkey. A bird native to America, which received its name when confused with the original Turkey—an African Guinea Fowl.

1. Take a field trip to see live turkeys and visit a supermarket to see fresh or frozen turkeys for sale.

2. Research wild turkeys, from which our domestic turkey was bred. Use books on birds to find out how the turkey we eat today differs from those that were eaten during the first Thanksgiving. Children can write and illustrate books on what they discover.

3. Cook Turkey Burgers.

Before Thanksgiving, have children follow several of the above recipes to cook their own Thanksgiving dinner. When cooking and eating, review why we traditionally eat some of the things we do during this holiday.

Social Studies

Grades 4-6

Geography
Economics

Objectives **THE LEARNER WILL KNOW THAT THERE IS AN UNEQUAL DISTRIBUTION OF NATURAL RESOURCES.**

THE LEARNER WILL KNOW THE LOCATION AND USE OF ECONOMIC RESOURCES IN NORTH CAROLINA AND THE SOUTHEAST (ECONOMICS, GEOGRAPHY).

Activity SS10 **What foods are produced in North Carolina?**

Children can use "principal products" maps* of North Carolina to list foods which are grown in their state. They can use other references to find out why certain foods are grown mainly in one area, but not in another. Simple gardening books can be used. (See Books List–Foods and Social Studies). A chart could be made:

Food	Where Grown in North Carolina	Why
Apples	Western part of N.C.	Mountains have cooler climate.
Peanuts	Eastern	Peanuts do well in sandy soil.
Shellfish	Eastern	Grown in ocean.
Pecans	Southern	Do best in hot weather.

Children can cook recipes which contain foods produced in North Carolina. For example use:

Food		Sample Recipes
Potatoes	in	Potato Latkes
Shell fish (shrimp)	in	Won Ton Shrimp
Cabbage	in	Cole Slaw
Peanuts	in	Peanut Butter Chop
Soybeans	in	Soy Bean Burgers
Sweet Potatoes	in	Sweet Potato Pie
Fish	in	Tofu Burgers
Honey	in	Pashka
Pecans	in	Apple Oatmeal Cookies
Strawberries	in	Fruit Shake
Peppers	in	Vegetable Patties
Cucumbers	in	Tabbouli Variation

*"Principal products" maps are found in children's encyclopedia. For example, look in *World Book Encyclopedia* or *Collier's Encyclopedia*.

Food		Sample Recipes
Corn	in	Corn Fritters
Pork	in	Quiche Lorraine
Watermelon	in	Fruit Shake Variation
Peaches	in	Egg Nog Variation
Stringbeans	in	Three Bean Salan
Chicken	in	Silver Wrapped Chicken

Note: A similar activity can be done when children are learning about other states and countries:

4th grade–other southeastern states
5th grade–United States, Canada, and Latin America
6th grade–Europe and the Soviet Union

Geography
History

Objective **THE LEARNER WILL KNOW THAT PHYSICAL GEOGRAPHY IS A FACTOR IN DETERMINING HOW AND WHERE PEOPLE LIVE AND HAVE LIVED.**

Activity SS11 **Eat What You Can Grow**

When teachers use multicultural and multi-ethnic recipes, children can cook many dishes which are examples of foods eaten in specific countries, or which use an ingredient commonly associated with a specific country. The physical geography of an area determined what foods are easily available. When learning about the geography and principle foods produced in different countries, have children cook recipes representative of those countries. The dishes can be discussed to reveal:

1. Which ingredient(s) are typically used in _____country_____?

2. What geographical features of the country help make the ingredient plentiful to the country's inhabitants?

For example: Tofu Burgers* use some ingredients typical to Japan.

1. The ingredients typical to Japan are tofu, soy sauce, and bonita. Soy sauce and tofu are both made from soy beans.

2. Japan is a very small country with many people. Since they do not have large areas to raise cattle, they use soy products as an alternative source of protein. Japan is an island country. One of their major industries is fishing. Therefore they eat fish instead of other meats.

*Sample recipe is from *Cook and Learn.*

Sample Recipes*

Africa
African Meat Balls

Alaska
Alaskan Cranberry Relish

Albania
Albanian Sesame Biscuits
(Ismir Simit)

Arabia
Arabian Corn Bread

Armenia
Armenian Meat Tarts
(Missov Boerg)
Armenian Cheese Tarts
(Panir Boereg)

Australia
Australian Oat Cakes
Australian Cheese Curry Biscuits

China
Chi Tong
Teem Gok
Silver Wrapped Chicken
Won Ton Shrimp
Asian Dessert
Asian Salad
Egg Foo Yung
Vegetable Confetti
(Chinese Stirred Rice)

England
English Muffins

Finland
Rieska
Rice Nut Steak (Pahkina-Faisti)

France
Quiche Lorraine
French Apple Salad
Coeur A La Creme
Cream Cheese the French Way
French Toast
Croque Monsieur
Crepes

Greece
Hot Rice Salad

Hawaii
Hawaiian Lemonade
Hawaiian Waldorf
Hawaiian Bran Muffins

Holland
Gingerbread People
Gingerbread

India
Chapatis

Ireland
Irish Soda Bread

Israel
Charoses (Uncooked Applesauce)
Pita
Hummus Bi Tahina
Falafel
Jewish Blintzes
Israeli Flat Bread
Israeli Labneh
Potato Latkes

Italy
Stracciatella (soup)
Pizza
Zucchini Fritters

Japan
Tempura
Tofu Burgers

Latin America
Latin American Corn Bread

Lebanon
Tabbouli

Mexico
Tortillas
Tacos
Bunuelos
Sopaipillas

*List from *Maximizing Learning From Cooking Experiences,* Harms, T., Addison-Wesley Publishing Co., Menlo Park, CA 1980.

Russia
Pashka

Sahara Desert
Sahara Fruit Shake

Scandinavia
Scandinavian Salad
Brown Sugar Cookies

Scotland
Scottish Scones

South America
Brazil: Pumpkin Pudding
(Pudim de Abobara)
Paraguay: Chepa

South Seas
South Seas Fruit Shake

Spain
Brown Rice Pudding

Switzerland
Swiss Birchermuesli
Fondue

Thailand
Boiled Won Tons

Turkey
Turkish Ayran

History

Objective **THE LEARNER WILL KNOW THAT WAYS OF LIVING CHANGE OVER TIME AND HOW AND WHY THESE CHANGES OCCUR (HISTORY)**

Activity SS12 **Where Did Our Vegetables Come From?**

Although we live in America, we grow and eat many vegetables which did not originate here. Before fifteenth century explorers came to the United States, familiar vegetables which were grown in our country included beans, corn, onions, squash and pumpkin. As different cultural groups came to the United States, they influenced the foods grown here by introducing new food plants.

Children can do research to find out who introduced different vegetables into the United States and when they were introduced. Discuss or write about which foods we would miss in cooking had new vegetables not been introduced. For example:

How the Cucumber Came to the United States

The cucumber first grew in India. The Indians introduced it to Europeans. Columbus brought the cucumber to Haiti on one of his voyages to the New World. By the time European settlers reached Virginia in 1584, the American Indians were already growing cucumbers. Early Massachusetts colonists grew cucumbers, which they called "cowcumbers." If cucumbers had never spread to America, I would miss eating them in salad, with dips, or just plain, from my garden.

Origin of Familiar Vegetables

Artichoke	– Native of Mediterranean. Popular in ancient Greece and Rome.
Asparagus	– Wild on shoreline and riverbanks of Europe. Eaten by Romans and Greeks and early American colonists.
Broccoli	– European. Popular in Italy.
Brussels Sprouts	– Brussels, Belgium was center for growth. Only popular with French and Belgians. Now very popular in Great Britain.
Cabbage	– Wild in Great Britain, Denmark and France.
Carrot	– Bred into present form by French Horticulturist, from Queen Anne's Lace.
Cauliflower	– Mediterranean.
Celery	– Northern Europe.
Collards	– Grown by Greeks and Romans.
Cucumber	– Indian. Very ancient.
Lettuce	– May be oldest cultivated vegetable. Eaten by Persians, Chinese, Europeans.
Melons	– Asian–Cantalope. African–Watermelon.
Okra	– African.
Peas	– Europe and Northern Asia.
Sweet Pepper	– South and Central America.
Potato	– South America.
Soybean	– Chinese.
Spinach	– Iran.
Sweet Potatoes	– West Indies.
Tomato	– Wild in Andes Mountains.

BOOK LIST AND INDEX

Book List

The following books are appropriate for teachers and children to use when doing the activities described in this manual. An additional picture book list for preschool-k is included with Activity R12.

Meat and Meat Substitutes 1-3

Buehr, Walter. *Harvest of the Sea.* William Morrow & Co., N.Y., 1955. Includes fishing methods, fish preservation, maps of fishing grounds, commonly eaten fish.

Darby, Gene. *What Is a Chicken.* Benefic Press, Chicago, 1957. Chickens–growth, care, and egg products.

Earle, Olive and Kantor, Michael. *Nuts.* William Morrow & Co., N.Y., 1975. Discusses most nuts eaten by people and others.

Kenworthy, Leonard S. and Jaeger, Laurence. *Soybeans the Wonder Beans.* Discusses history, research, protein meat extender.

Palayzo, Tony. *A Pig for Tom.* Garrard Publishing Co., Champaign, Ill., 1963. Tom raises his pig, Mimi, from a piglet. Detail is given to the care of the pig. Includes pictures of food products we get from hogs.

Selsam, Millicent E., & Morrow, Betty. *See Through the Sea.* Harper & Brothers, N.Y., 1955. Includes fish eaten by people and fish eaten by other fish.

Milk and Milk Products 1-3

Aliki. *Green Grass and White Milk.* Crowell and Company, N.Y., 1974. Shows how milk is produced, from the cow to the dairy. Includes how to make yogurt and cottage cheese.

Bread and Cereals 1-3

Aliki. *Corn is Maize–The Gift of the Indians.* Thomas Y. Crowell Co., N.Y., 1976. Many aspects of corn simply told. How it grows, history, foods from corn.

Fruits and Vegetables 1-3

Fenton, Carroll Lane, & Kitchen, Herminie, B. *Fruits We Eat.* The John Day Company, N.Y., 1961. History and origins of fruits. Includes where they usually grow best.

Johnson, Hannah Lyons. *From Appleseed to Applesauce.* Lothrop, Lee & Shephard Co., N.Y., 1977. Apples–history, growing, harvesting, preserving.

Johnson, Hannah Lyons. *From Seed to Jack-o-Lantern.* Lothrop, Lee, & Shephard Co., N.Y., 1974. Complete discussion on raising pumpkins, and turning them into Jack-o-Lanterns.

Kohn, Bernice. *Apples. A Bushel of Fun and Facts.* Parents' Magazine Press., N.Y., 1976. History, how they grow, types, myths and legends, and recipes.

Selsam, Millicent E. *The Carrot and Other Root Vegetables.* William Morrow and Co., N.Y., 1971. Details growth cycle of carrot, radish, turnip, beet, sweet potato.

Selsam, Millicent E. *More Potatoes.* Harper and Row., N.Y., 1972. Sue finds out where potatoes come from by asking the grocer and going on class trips.

Selsam, Millicent E. *Popcorn.* William Morrow & Co., N.Y., 1976. Origin and growth of popcorn, how it pops.

Selsam, Millicent E. *The Tomato and Other Fruit Vegetables.* William Morrow & Co., N.Y., 1970. Details tomatoes, snap beans, cucumber, egg plant.

Selsam, Millicent E. *Vegetables from Stems and Leaves.* William Morrow & Co., N.Y., 1972. Asparagus, potatoes, lettuce, spinach, cabbage, celery, mustard, onions, etc. growth.

Foods and Health 1-3

Balestrino, Philip. *The Skeleton Inside You.* Thomas Y. Crowell Co., N.Y., 1971. All aspects of skeleton including benefits of calcium rich foods.

Hammond, Winnifred G. *The Riddle of Teeth.* Coward, McCann, & Geoghegan., N.Y., 1971. All aspects of teeth including helpful and harmful foods.

Haynes, Olive V., R.N. *The True Book of Health.* Children's Press, Chicago, 1954. Includes food groups and tooth brushing.

Klagsburn, Francine & Klagsburn, Samuel, C., M.D. *Your Health: Nutrition.* Franklin Watts, London, 1969. Discusses how foods you eat help you and how to eat a good diet. Includes four food groups and other foods.

Leaf, Munro. *Health Can Be Fun.* J.B. Lippincott Company, N.Y., 1943. Includes foods which build healthy bodies and clean teeth.

Schloat, G. Warren, Jr. *Your Wonderful Teeth.* Charles Scribner's Sons., N.Y., 1954. Talks about why you must brush and why you have teeth.

White, Anne Terry and Lietz, Gerald S. *When Hunger Calls.* Garrard Publishing Co., Champaign, Illinois, 1966. Digestion, including a list of roughage foods, vitamins and how they keep us healthy, origins of foods, and harvesting the sea.

Other Books Related to Foods 1-3

Buehr, Walter. *Food From Farm to Home.* William Morrow & Co., N.Y., 1970. Discusses modern farm production of hay, grain, fruits and vegetables, eggs and poultry, milk, and pigs. Inlcudes machines used in growing each.

Dalglies, Alice. *The Thanksgiving Story.* Charles Scribner's Sons, N.Y., 1954. Story of pilgrims. Includes foods eaten on Mayflower, the first year, and harvest.

Goodspeed, J.M. *Let's Go To a Supermarket.* G.P. Putnam's Sons, N.Y., 1958. Many aspects of supermarket covered.

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Meats and Meat Substitutes 4-6

Riedman, Sarah. *Let's Take A Trip to a Fishery.* Abelard-Schuman, N.Y., 1956. Includes fish maps of U.S., descriptions of commonly eaten fish, ways we eat and preserve fish.

Selsam, Millicent. *Peanut.* William Morrow & Co., New York, 1969. Includes origin of peanut.

Silverstein, Alvin, and Silverstein, Virginia B. *Beans All About Them.* History, origin, growth cycle, use as protein, recipes and games.

Milk and Milk Products 4-6

Meyer, Carolyn. *Milk, Butter, and Cheese.* William Morrow and Co., 1974. Milk production and processing are discussed. Includes section on nutritional value of milk products plus information on specific dairy products (butter, cheese, ice cream).

Foods and Social Studies 4-6

(History, Geography)

Brooks, Anita. *The Picture Book of Grains.* The John Day Company, New York, 1962. Includes map of "Major World Grain Production." Describes grain production throughout the world.

Brown, Elizabeth Burton. *Grains–An Illustrated History with Recipes.* Prentice-Hall, Englewood Cliffs, N.J., 1977. Discusses origins, history of corn, oats, rice, wheat, and others. Detail given to countries which grow and use grains–traditions, recipes.

Faust, Joan Lee. *New York Times Book of Vegetable Gardening.* Quadrangle/New York Times Book Company, New York, 1975. Growing conditions and histories of vegetables described.

Fenton, Carroll Lane and Kitchen, Herminie B. *Plants That Feed Us.* John Day Co., N.Y., 1956. Origins and growth habits of grains and vegetables. Includes discussion of "New World" foods.

Kirkus, Virginia. *The First Book of Gardening.* Franklin Watts, Inc. N.Y., 1956. Includes origins of familiar vegetables.

Perl, Lila. *Slumps, Grunts, and Snickerdoodles–What Colonial America Ate and Why.* Seabury Press, N.Y., 1975. Includes discussion of foods made with corn, preserved fruits, and many others.

Petersham, Maud and Miska. *The Story Book of Corn.* John C. Winston Company, Chicago, 1933. Legends, origin, and present production and use of corn.

Petersham, Maud and Miska. *The Story Book of Food,* The John C. Winston Company, Chicago, 1933. Origins of foods including wheat, corn, sugar, citrus fruits, etc.

Wall, Gertrude Wallace. *Gifts from the Grove.* Charles Scribners' Sons, New York, 1955. Includes origin and production of citrus fruits. Includes map of citrus production in U.S.

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Foods and Health 4-6

Asimov, Isaac. *How Did We Find Out About Vitamins?* Walker and Company, N.Y., 1974. Discovery of how vitamins make people healthy, progress in understanding vitamins. Foods containing vitamins.

Jones, Hettie. *How to Eat Your ABC's–A Book About Vitamins.* Four Winds Press, N.Y., 1976. Discusses vitamins, how to balance your diet, chemical additives which may be harmful.

Koh, Bernice. *The Organic Living Book.* The Viking Press, N.Y., 1972. Chapter on reading labels includes discussion on food additives which are or might be harmful. Gives recipes to try, in addition to chapters on organic gardening, foods in nature, etc.

Orr, John Boyd. *The Wonderful World of Food.* Garden City Books, Garden City, New York, 1958. Includes section on world food production and transportation of foods, preservation of foods, how vitamins, etc. help body.

Seixas, Judith S. *Alcohol, What It Is, What It Does.* Greenwillow Books, N.Y., 1972. Alcohol contrasted to other more nutritious, non-alcoholic drinks. Includes facts about alcohol, how it affects the drinker, dependence on alcohol.

Weiss, Malcolm E. and Weiss, Anne E. *The Vitamin Puzzle.* Julian Messner, N.Y., 1976. Includes how carrots help eyes, Vitamin C helps skin and gums, history of vitamins related to disease.

Foods and Science 4-6

Freeman, Mae and Ira. *Fun With Chemistry.* Random House, N.Y., 1972. Includes baking-soda and vinegar "explosion" experiment and others using different foods.

Goldin, Augusta. *The Shape of Water.* Doubleday and Co., Inc. Garden City, N.Y., 1979. Discusses water in different forms–liquid, solid, and vapor. Includes experiments.

Gray, William D. *What We Find When We Look at Molds.* McGraw-Hill Book Company, N.Y., 1970. Molds on foods.

Milgrom, Harry. *Egg-ventures–First Science Experiments.* E.P. Dutton and Co., N.Y., 1974. Lots of fun, easy experiments using eggs.

Schneider, Herman and Nina. *Science Fun for You In a Minute or Two.* McGraw-Hill Book Co., N.Y., 1975. Includes how to tell raw eggs from cooked ones and how to make a simple thermometer.

Schwartz, Julius. *Magnify and Find Out Why.* McGraw-Hill Book Co., N.Y., 1972. Activities include taking a closer look at salt, bubbles in food, peas in pods, spices.

Simon, Seymour. *Let's Try It Out...Hot and Cold.* McGraw-Hill Book Co., N.Y., 1972. Different aspects of hot and cold including weather thermometer measurement. Includes some science experiments with ice cubes.

Stone, A. Harris. *The Chemistry of a Lemon.* Prentice-Hall, Inc. Englewood Cliffs, N.J., 1966. Simple science experiments lead to many discoveries about the lemon.

Measurement 4-6

Bitter, Gary G. and Metos, Thomas H. *Exploring with Metrics.* Julian Messner, N.Y., 1975. Explains metric system and ways to use it.

Branley, Franklyn M. *How Little and How Much, a Book About Scales.* Thomas Y. Crowell Co., N.Y., 1976. Discusses what a "scale" is. Includes discussion on history of thermometer (Fahrenheit–Celsius).

Branley, Franklin M. *Measure with Metric.* Thomas Y. Crowell, N.Y., 1975. Explains metric system.

Epstein, Sam and Beryl. *The First Book of Measurement.* Franklin Watts, Inc., N.Y., 1960. Discusses history of measurement, metric system.

Hahn, James and Lynn. *The Metric System.* Franklin Watts, N.Y., 1975. History and use of metric system.

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Listening Skills–R1, R5, R6, R12
Literature–R12
Living Things–HL3, S1, S2, S3, S4, S5, S6, S14, S15, S16, S22

Matching–M4, M8, M12, S10, S11
Meals, Planning–HL6, HL18, HL25, M25
Measurement–M13, M14, M15, M16, M17, M20, M27, S12, S14
Metric–M26, M27, M14
Money–SS7, M16
Multiplication–M22, M23

Numerals–M19, M20, M29
Nutrients–HL15, HL17, HL22, HL25, M31, R20, S5, S14, S17, S22, S23, SS8
Nutrition–HL1, HL2, HL3, HL4, HL5, HL6, HL11, HL12, HL13, HL14, HL15, HL16, HL17, HL18, HL19, HL20, HL21, HL22, HL23, S3, S22, S23

Observation, Scientific–HL9, HL22, M28, S12, S13, S19, S22, SS7
Order–M7

Pesticides–HL24
Phonics–R11, R14
Plants, As Food–S1, S2, S6, S7, S8, S15, S16, S17, SS9, SS12
Preserving Foods–HL9, HL24, S5, SS8, SS9
Problem Solving–S20, S21
Protein–HL17, S17, SS11

Roughage–HL 19

Safety–HL10
Same, Different–M5, S10, S11, S12
Self-Help Skills–HL14, HL20, HL21
Sequence–M7, R2, R3, R4, R5, R15, R16, S15
Shapes–M13, S18
Spices–M4, S10
Subtraction–M16, M21

Tasting–HL1, M1, S9, SS2
Thermometers, Using–S13, M15
Time–M12, M18, M25

Vegetables, Origins of–SS12
Visual Discrimination–R7, R8, R9
Vitamins, A–HL17, S23
B–HL17, S23
C–HL17, HL25, S23, SS8
D–HL17, S23

Water–HL17, S5, S22, SS8
Weather–SS6, SS7
Writing–R16, R17, R18, R19, R20

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SNACKING CAN BE GOOD FOR YOU

Both children and adults like to snack. Contrary to what people think, snacking can be a good habit when nutritious foods are eaten. This is especially true for children. Their stomachs are smaller than adults' so children may need to eat 3 meals plus 2-3 snacks a day in order to meet their nutritional needs. Here are some suggestions for choosing good snacks for your children.

- ★ Snacks should be chosen from the basic food groups. This will help children meet their daily food needs. Some snack ideas are:

  Milk Group: milk, cheese, yogurt

  Breads & Cereals Group: a piece of cornbread or whole wheat bread, a bran muffin

  Fruits & Vegetables Group: a piece of fruit, raw vegetables cut-up

  Meat & Meat Substitutes Group: hard boiled egg, chicken leg, nuts

  Combinations of foods from 2 or more food groups: cheese toast, peanut butter sandwich, bowl of unsweetened cereal and milk

- ★ Snacks should be small servings of foods. Too much food, especially if eaten within 2 hours of mealtime, may decrease your child's appetite at mealtime.

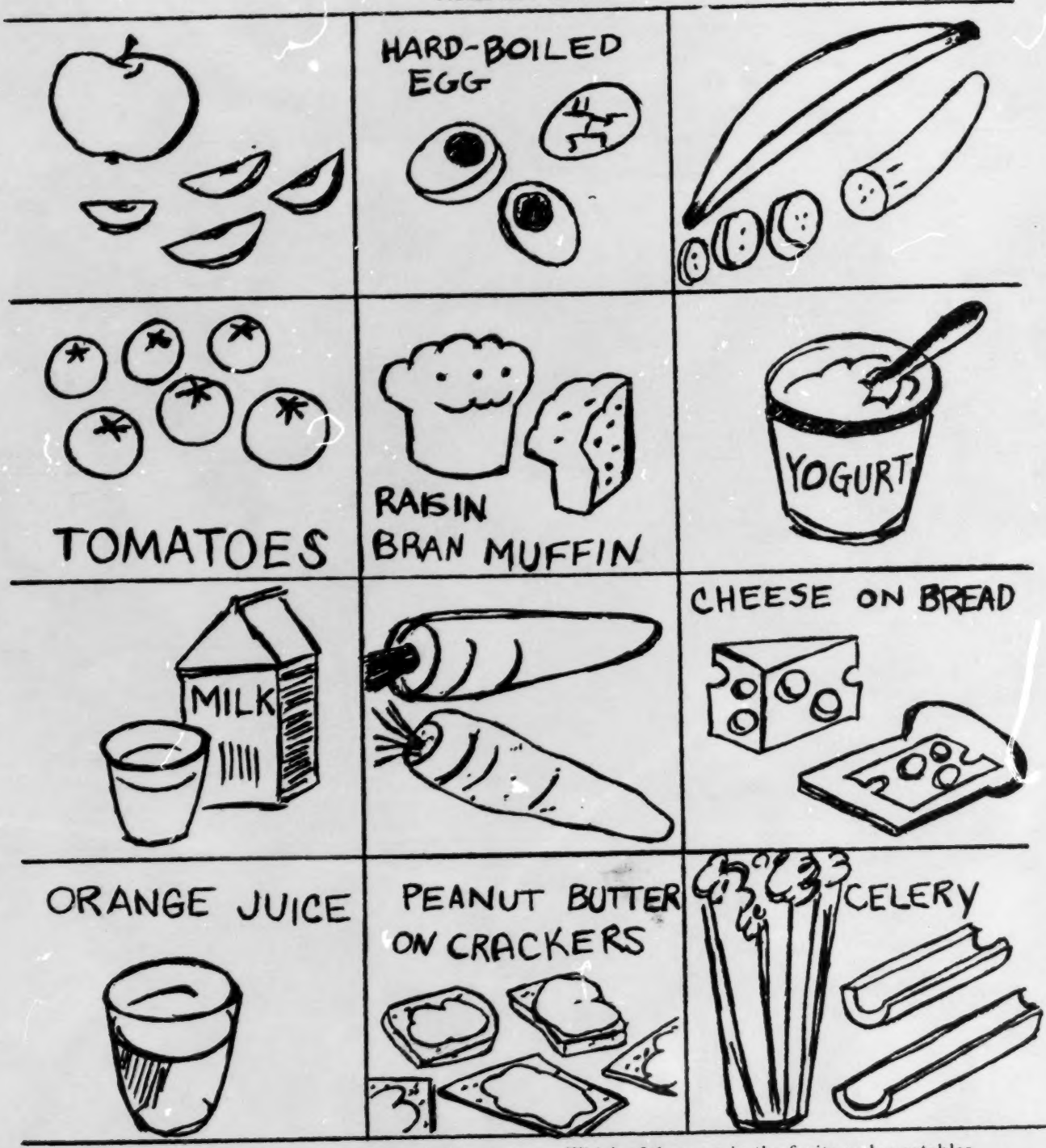
- ★ It is not necessary to buy snacks or to spend a lot of time preparing special foods for snacks. Many nutritious snacks are easy to fix. They can even be leftovers from a meal. Children also like to help prepare their own snacks.

- ★ Snacks should be low in sugar, fat, and salt.

Many advertized snacks are high in sugar, fat, and salt. Such foods may help cause tooth decay, problems with weight, and high blood pressure. Children are often influenced by T.V. advertising and by their friends to want these unhealthful snacks. However, by serving only good snacks to children, you can help them grow well and stay healthy. The Talk-About Page illustrates healthful snacks.

Sample Newsletter from the NETP Child Care Nutrition Education and Training Program.

TALK-ABOUT PAGE



Can you name each of these snacks?

Which of these snacks have you eaten?

Which do you like to eat best?

Which of these snacks can you make yourself?

Which of these are in the fruits and vegetables group?

Which of these are in the milk group?

In which food group are the other snacks?

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